

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 "



N A A V

National Association of Atomic Veterans, Inc.

"Assisting America's Atomic Veterans Since 1979"

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R. J. RITTER - Editor

November, 2010



"WHEN THE U.S. DEFENSE DEPARTMENT ORDERED US TO DO THESE ATOMIC-WARFARE EXERCISES - WITH REAL LIVE NUKES - THEY DIDN'T TELL US THAT WE WOULD BE WOUNDED BY AN INVISIBLE ENEMY, AND THAT WE WOULDN'T EVEN GET ONE DAMN MEDAL, OR PURPLE HEART, OR NOTHING ELSE, FOR GETTING SICK & DEAD"

Sgt. Raymond "Buster" Evans U.S.M.C. (Deceased)

COMMANDERS COMMENTS



Many thanks to our members and friends for their continuing support of our efforts to seek out interesting subject matter for the periodic Newsletter. The main thrust is to revisit all of those (secret) nuclear radiation exposure events that *America's Atomic-Veterans* were assigned to participated in, many years ago, and to keep current generations informed of the aftermath associated with the detonation of nuclear weapons..... The after-effects of such weapons, in short term death & mass destruction, and long term human misery & suffering, would be incalculable in many ways.....This is why all Nations of the free-world must not allow radical groups (religious or otherwise) to develop or possess nuclear weapons

The *Veterans Advisory Board* on (radiation) *Dose Reconstruction (VBDR)* is still engaged in working closely with the *Department of Veterans Affairs (VA)* and the *Defense Threat Reduction Agency (DTRA)* relative to *Atomic-Veteran* outreach efforts, and the filing of claims for radiogenic health issues For additional information, updates & transcripts of activities, we invite you to visit their website www.vbdr.org

ATOMIC VETERANS & THE PURPLE HEART !!!

“Those Veterans who were exposed to Ionizing nuclear radiation while participating in the Atmospheric Atomic test events, from 1945 to 1962, were just as wounded as those Veterans who were injured by the bullets from the rifles of all of the enemy’s of our Country”

---- **President George W. Bush** ----

The statement (on the cover of this newsletter) are the words of *Sgt. Raymond “Buster” Evans (USMC)*, who participated in the *Upshot-Knothole & Teapot* tests....Like all military participants, he followed his orders and, without question, stood tall in the face of the unknown....Many years later, *Sgt. Evans*, began to developed severe radiogenic health issues, including cancers, that were directly related to his radiation exposure events at the Nevada Test Site.....After many years of pain and grief, *Sgt. Evans'* health issues caused his pre-mature death

His statement is typical of the total frustrations voiced by the majority of *America's Atomic-Veterans*, who were also wounded by radiation particles, while proudly serving their country. They all feel strongly that a **Purple Heart**, or even an **Atomic-Veteran Medal**, should have been awarded for being deliberately exposed to, and wounded by, nuclear radiation particles

The *Department of Defense* is on record as stating that the **Purple Heart** is only awarded to veterans wounded by a real live enemy of the *United States*, and should not for awarded to Veterans who may have been (intentionally) wounded by the *United States of America* while on active duty

It must be noted, that bullet & ordinance fragment wounds will, in most cases, heal and have no further effect on the (long term) health of those so wounded....However; ionizing radiation wounds will have a profound effect on the future health of those so wounded, often many years after the radiation exposure event....Additionally, Scientific studies indicate that, in many cases, Ionizing radiation exposure has adversely affected the reproductive (**DNA**) thus genetically altering the health of children born to many *Atomic-Veterans*.....

Over the years, several members of *Congress* have promised their (*Atomic-Veteran*) constituents that they would promote the issuance of an **“Atomic-Veteran-Medal”** for all veterans who

were ordered to participate in atmospheric or underwater nuclear weapons tests.....In all cases, attempts to get *Congress* to legislate the issuance of any such proper recognition to *Atomic-Veterans* has always died in *Committee*, and therefore; could not be brought to an official full floor vote What a shame !!! Over the last 30 years, **NAAV** has promoted the issuance of a proper “official” recognition medal, without success. We continue to stand ready to work with *Congress* towards these ends.....

Since 1945, thousands of *Atomic-Veterans* have been victimized by radiogenic health issues, causing great pain and shortening their normal life expectancy. They sacrificed themselves and, in many cases jeopardized the health of their children, while defending the *National Security* of the *United States of America*... Without fail, surviving *Atomic-Veterans* would all “strap-it-on” one more time, in the interest of freedom and liberty, as they are all true **Patriots** of the first order. They seek nothing more than proper recognition for their service and health issue sacrifices..... We are still waiting for *Congress* to properly honor the memory of thousands of deceased *Atomic-Veterans*, and the service & sacrifice of approx. **196,000** surviving *Atomic-Veterans* before they all dieThe clock is still ticking, and *Congress* has not yet fulfilled that promise

In the words of *Sgt. “Buster” Evans* *“Maybe they will see fit to issue one (1) Atomic-Medal to the last-man-standing..... just so they can finally say.....look what we did for you.....but that may well be just before Hell freezes over” !!!!!*

Final Muster

- | | |
|--------------------------------------|---------------------------------|
| <i>J. N. “Buzz” Broussard (LA)</i> | <i>Ronald Hensley (WV)</i> |
| <i>Tommy Ellis (Ky)</i> | <i>Wilbur Clark, Jr. (IA)</i> |
| <i>Earl Swette (FL)</i> | <i>Wallace Rankin (CA)</i> |
| <i>Anthony Labriola (IL)</i> | <i>Erwin Finley (WV)</i> |
| <i>Eugene Davis (TN)</i> | <i>James Airhardt (IL)</i> |
| <i>William McGee (CA)</i> | <i>Bruce Voges (MO)</i> |
| <i>Wesley Curtiss (NM)</i> | <i>Bobby Williams (IL)</i> |
| <i>William Nelson (NY)</i> | <i>John Thomas (MT)</i> |
| <i>Thomas Kiley (MA)</i> | <i>William Ward (KY)</i> |
| <i>Alfred LaFalce (LA)</i> | <i>Garland Williams (CT)</i> |
| <i>Robert Schiplet (MT)</i> | <i>Joseph Stasiak (IN)</i> |
| <i>Leonard Aronoff (OH)</i> | <i>Raymond Ross (KY)</i> |
| <i>Edward Johnson (NY)</i> | <i>Eugene Streng (TX)</i> |
| <i>John Wilson (FL)</i> | <i>Gordon Thielke (WI)</i> |
| <i>Harmon Rulliffson (MN)</i> | <i>Leroy Krafcheck (FL)</i> |
| <i>Edward Janek (TX)</i> | <i>Luther Koon (MN)</i> |
| <i>Ralph Boley (IA)</i> | <i>Dale Elmore (TX)</i> |
| <i>Edward Richardson (ME)</i> | <i>Robert Daley (MO)</i> |
| <i>Marcus Giro (CA)</i> | <i>Delbert Crawford (AZ)</i> |
| <i>Benjamin Attwater (OR)</i> | <i>Charles Timmons (MD)</i> |
| <i>George Rittenhouse (IL)</i> | <i>Thomas Morrison (NY)</i> |
| <i>William Morrison (FL)</i> | <i>Michael Thompson (OK)</i> |
| <i>Albert Finnigan (MT)</i> | <i>Jonathon Mitchell (IA)</i> |

We ask our members to observe a special moment of silence so as to properly recognize & give thanks for their honorable service, and total commitment to their God, their families and their Country.



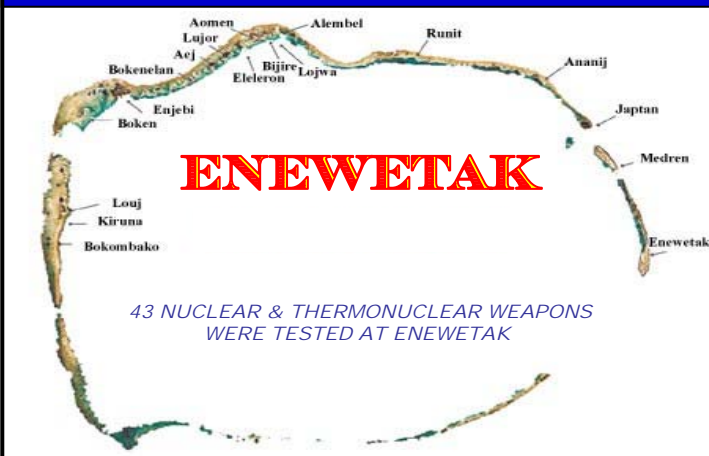
“Rest in peace, our Atomic-Veteran friends.”



WE NEED YOUR SUPPORT - IN MANY WAYS

As noted in previous issues, you must keep your **dues updated** and current, so we can continue to send you our periodic newsletters. Your (annual) dues expiration date is indicated on the top line of your newsletter mailing label All contributions and “good” Samaritan donations are also most welcome.....

THE CLEANING UP OF ENEWETAK



People and Events on Enewetak Atoll

After the (1946) Crossroads “Able” & “Baker” tests (at Bikini) the local (*Marshallese*) inhabitants of Enewetak were re-located to a new home on Ujelang (in 1947) in preparation for the scheduling of the first series of nuclear weapon tests at Enewetak AtollThis was Operation “Sandstone”, a series of three (3) experimental development tests (X-ray, Yoke & Zebra) that were conducted in April, 1948.....



SANDSTONE “X-RAY” (04-14-48) 37 KILOTONS

These three weapon devices were housed in shot cabs atop 90ft. steel towers, located on the Islands of Enjebi, Aomen, and Runit, in the Enewetak group.....

Although a series of improvements for the (lens-type) implosion bomb were envisioned and under development at Los Alamos Scientific Labs (**LASL**), even before the first nuclear test (at Trinity), the end of the war had derailed these efforts..... With the “Cold-War” rapidly developing, there was an urgent need to introduce new improvements & upgrades to the U.S. nuclear weapons stockpile.....

On 27 June, 1947 President Harry S. Truman authorized a new test series for weapons development to be scheduled for the following year..... and Operation “Sandstone” was conducted at Enewetak Atoll (in the Marshall Islands), in 1948, to test the first new weapon designs since World-War-II.....

This massive operation involved more than 10,200 military personnel.....Up until this time, previous (lens-type) implosion bombs that had been exploded (“Gadget” at Trinity Site, “Fat-Man” at Nagasaki, Japan & the “Able” and “Baker” bombs at Crossroads) had all been identical (Pu-239) fission core devices based on the same conservative wartime design.....

The Sandstone test series introduced a second generation of weapons, by evaluating several new bomb design principles.....

In addition, a number of design parameters were varied to evaluate their effects on total performance. The original “Fat-Man” (pit) design used a *Christy* solid *Plutonium* core, what was surrounded by a close fitting natural *Uranium* tamper..... The *Sandstone* devices all replaced the contiguous tamper-core approach with a “levitated-pit” core design, in which the “pit” was suspended within a larger hollow space, within the tamper, so that a gap existed between them. The collision between the tamper and core would create more efficient compression of the core than the explosive-driven shock principle used in the war-time design..... The *Sandstone* devices did, however; retain the solid core design..... These devices also abandoned the use of a pure *Plutonium* core since *Oralloy* (highly enriched *Uranium*) in **U-235** production exceeded *Plutonium* production by a factor of over 3-to-1.....

The first test, “X-Ray”, used a composite *Oralloy-Plutonium* core, while both “Yoke” and “Zebra” used an all *Oralloy* core. The weight of the pits (tamper plus core) for all three devices were about the same..... Other tested features included varying the tamper thickness, that had been fixed at 7 cm. in earlier devices, varying the amount of fissile material in the core, and the effect of using a minimum strength *Polonium-Beryllium* “Urchin” Neutron initiator.....

Previously, *Urchins* containing the full load of 50 curies of *Po-210* had been used in bomb tests..... Guidelines permitted the use of initiators with as little as 12 curies, but the adequacy of these had never been previously put to an actual test.....

Given the very short (138.4 day) half life of *Po-210*, this was an important question for maintaining a ready stockpile. Although the *Sandstone* tests continued to use the **Mk-3** implosion (lens-type) system, they “proof” tested components that led to the fielding of the **Mk-4** bomb design.....The **Mk-3** bomb that was used for the *Sandstone* devices was 60 inches in diameter and weighed 10,500 lbs.....

Both the principle of levitation and the use of *Oralloy-Plutonium* composite cores had been under development at Los Alamos during the war..... If it had continued, into the fall of 1945, both of these innovations would have been introduced to increase the size and efficiency of the growing nuclear weapon stockpile.....Now, the confrontation with the *Soviet Union* impelled the inclusion of these innovations in all U.S. (deployable) nuclear weapons.....

The results of *Sandstone* led to the immediate stockpiling of both “X-Ray” & “Zebra” core designs, thus replacing all other designs. Taken together, this led to an immediate increase in total U.S. stockpile yield of 75%.....



GREENHOUSE “GEORGE” (05-08-51) 225 KILOTONS

Then, in April & May, of 1951, Operation "Greenhouse," would set the stage for the first (full) test of a large thermonuclear (hydrogen) bomb at *Enewetak*..... These tests consisted of four new, and relatively high yield designs....."Dog" & "Easy" were proof tests of two new strategic bombs the **Mk-6** and **Mk-5** respectively, while "George" & "Item" were the first (true) tests of the thermo-nuclear release of fusion energy from thermally excited (*Neutron*) nuclei.....

"George" was a research experiment that studied *Deuterium* fusion burning, when heated by thermal radiation effects..... "Item" was the first test of the principle of the fusion-boosting of fission devices.....

"Dog" was a "proof" test of **Mk-6** strategic bomb design, and this was the highest yield test up to that time, however; an even larger yield would be accomplished with the "George" device one month later, that would "proof" the "How-Double-Prime" principle (of fusion boosting) using a new composite *Uranium-Plutonium* core design.....

"George" was a physics experiment, using a purely experimental thermonuclear device design that was unsuitable for use as a weapon, without being coupled to other compatible devices.... The test device (code named "Cylinder") consisted of an enriched *Uranium* core which was imploded using a new & unique cylindrical implosion system components design.....

This device may have also been the first to use external initiation to begin the fission chain-reaction....The "Cylinder" fission device may have been based on a design by (physicist) *Dr. George Gamow*....This device was a disk about 8 ft. across, 2 ft. thick and perforated by an axial hole.....The hole, compressed to a narrow channel by the implosion, then conducted thermal radiation to a small *Beryllium-Oxide* (*BeO*) chamber containing a mixture of (cryogenic) *Deuterium*, blended with a small amount of *Tritium*, so as to lower it's ignition temperature.....

The thermal radiation not only heated the fuel chamber to fusion temperatures, but the pressure within the *BeO* wall caused it to implode and compress the fusion fuel, thus rapidly increasing the acceleration of its combustion process.....Now, the thermal radiation arriving ahead of the shock front of the fission explosion, allows time for a reaction to occur before being totally engulfed by the expanding fission fireball.....

By now, the yield of the fusion reaction was negligible, when compared to the actions of the fission device.....The progress of the fusion burn was observed by measuring the thermal "X-Rays" emitted by the fusion plasma activity....

This observation required instruments that were shielded from those thermal *X-Rays* (& *Gamma* rays) generated by the fission process, and were located far enough away from the explosion to be able to measure and transmit data while the fusion burn was in progress.....This part of the experiment was designed by *Dr. Hugh Bradner* and *Dr. Hebert York*.....

The measurements were made by recording the fluorescence of a set of "K-Edge" filters located at the base of the test (shot cab) tower....."X-Rays" from the fusion chamber reached the instruments through vacuum filled pipes that were inside a 4 ft. diameter lead pipe that blocked out all other (extraneous) "X-Rays" and *Gamma-Rays*.....The total weight of diagnostic equipment was **283** tons.....

Other diagnostics, used for these tests, were shielded photographic plates to detect the high energy fusion neutrons by the "streaks" left by *protons* ejected from the emulsion by *neutron* collisions.....This portion of the experiment was largely

developed by *Edward Teller*, and was based on a device patented by *Johann Von Neumann* and *Klaus Fuchs* in 1946

The *Von Neumann-Fuchs* invention was intended to be the prime ignition mechanism for the "Classical-Super," the first proposed design for a *Hydrogen Bomb* that was later shown to be impracticalThe test fortuitously provided useful data on the radiation implosion principle, that was an essential element of the *Teller-Ulam* design, which had been devised just two months prior to the "Greenhouse" tests And so, "George" was the first test of the principle of "fusion-boosting" with the use of a thermonuclear fusion reaction to inject "Neutrons" into a fission core to boost total efficiency & maximum yield.....

The "Greenhouse" tests also incorporated the **Mk-6** improved (larger) "Fat-Man" style weapon, that was 60 inches in diameter, 128 inches long, and weighting 8,500 lbs..... The **Mk-6** had an improved 60-point (lens-type) implosion system, as opposed to the **Mk-4's** 32-point system, that provided greater compression with a much higher efficiency ratio.....The **Mk-6** was the first nuclear weapon stockpiled in large numbers by the U.S., with more than 1000 produced..... Stockpiling of the **Mk-6** on an emergency basis was underway at the time of the *Greenhouse* test series.....

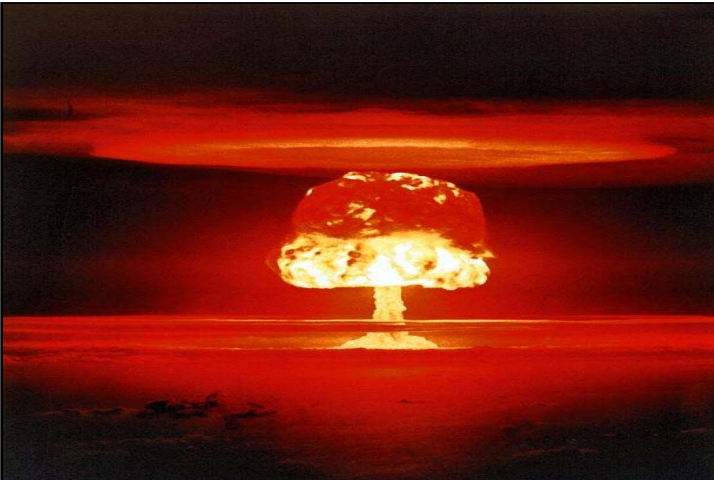
And *Greenhouse* was also used to "proof" the developing (92-point) **TX-5-D** bomb design, which was a major advance in increasing the yield to weight ratio.....thus producing larger destructive yields from lighter & smaller weapons.....The "Greenhouse" weapon devices were also used to test the effects of blast and overpressure forces on various military structures that were erected on nearby *Enjebi* and *Mijakadrek* Islands.....

The "George" explosion lifted 250,000 tons of soil to an altitude of 35,000 feet and left a large shallow crater in the coral and sand atoll that was 1,140 ft. across and 35 ft. deep...Such wide shallow craters were typical of atoll tower shots ..."George" was the largest nuclear explosion to date (a record that stood until the first thermonuclear device test, (*Ivy* "Mike") 17 months later



"MIKE" (10-31-52) a 10.4 Megaton Hydrogen Bomb, was the first true test of a (multi-stage) thermonuclear device incorporating a "TX-5" Lithium-6 / Deuteride (L6-D) first stage, coupled with a Deuterium / Tritium (D-T) gas fusion boosted second stage, coupled with an external Neutron generator. The mushroom cloud rose to an altitude of 108,000 ft. in less than three minutes, with a final diameter of 120 miles.....The resulting crater was 6,240 ft. in diameter, with a total depth of 164 ft.....

The *Ivy* "Mike" test completely vaporized *Elugelab*..... Early analysis of "Mike" radiation fallout debris showed the presence of two new *Plutonium* isotopes **Pu-244** & **Pu-246**..... The analysis also led to the discovery of 2 new heavy elements. These were *Einsteinium* and *Fermium*.....The *Ivy* tests were then followed by Operation "Castle" that would prove to be the worst atmospheric radiation contamination event in the history of U.S. Nuclear weapons development



"BRAVO" (02-28-54) 15 MEGATONS

Operation "Castle" (1954) involved 1 (megaton range) test at *Enewetak* and 5 (high-yield) thermonuclear tests at *Bikini*.... Following the initial successful demonstration of the *Teller-Ulam* design (used in the "Sausage" device for the *Ivy "Mike"* test) both weapon labs rushed to develop a number of deliverable weaponized designs of similar makeup

The original schedule included a weaponized version of the (*Sausage*) cryogenic fuel system, designated the **EC-16** (code named "*Jughead*") plus a variety of other new device extensions and concepts.... One of these new approaches included the use of non-cryogenic "dry" (*Lithium- Deuteride*) fuel, and proved to be both spectacular and disastrous.....with a yield far exceeding the original design expectations.....

Some of the other tests were also much larger than expected. In fact the three largest tests ever carried out by the U.S. were all part of Operation "Castle".....Not all new concepts were as successful, for example the first **UCRL** thermonuclear device failed and was classified as "a complete fizzle".....

Also included in this test series were experimental systems not intended for immediate deployment, weapon designs soon to be deployed on an emergency basis, and two designs that had already reached emergency deployment status....despite never having been previously tested.....One of these was an improved cryogenic **TX-16**, which was deleted from the test schedule (and eventually removed from service) when solid fuel proved to be both highly effective, and much safer to handle

An important factor in planning the *Castle* series was the availability of enriched *Lithium* (*Li-6*).....The U.S. thermonuclear weapon program had been stuck in the doldrums prior to the breakthroughs of *Teller & Ulam*, in early 1951, and no plans had been made for producing this critical fusion fuel..... Once a workable design for a high-yield fusion weapon had been conceived, it then became a race to get a large *Lithium* enrichment plant constructed and into full production....

In contrast, the *Soviets* had decided to pursue a thermonuclear design of limited potential (the "*Sloika*" *Alarm-Clock*), and had begun constructing *Lithium* enrichment facilities before the *United States*..... The *Soviet Union* exploded a "dry" device of this type the *August* (1954) preceding the *Castle* tests.....and at the time that the first U.S. *Lithium* enrichment plant was just starting up.....

Due to the current *Lithium-6* shortage, several weapon designs tested in the *Castle* series used only partially enriched, or even un-enriched *Lithium* fuel..... "*Bravo*" was the largest of the *Castle* series of tests, and the yield dramatically high, at **2.5** times more than the theoretical maximum estimate.....

Then, in 1956 a total of **11** nuclear tests were conducted at *Enewetak* as part of Operation "*Redwing*," including an air burst from a balloon positioned at a fixed height over the lagoon..... "*Redwing*" was the second U.S. test series devoted primarily to proving improved thermo-nuclear designs of actual weapons.....

While the "*Castle*" tests had demonstrated heavy, conservatively designed, first generation weapons, the "*Redwing*" series was dedicated to testing a broad variety of new innovative second generation designs.....The "*Castle*" series had (somewhat inadvertently) released large amounts of nuclear explosion by-products (especially fission products) into the atmosphere, causing hundreds of radiation injuries, and contributing to the death of one person, and contaminating much of the *Marshall Islands*.....

The total area of contamination was approx. 350,000 square miles, or **1%** of the Earth's entire surface Although only about **23** megatons of energy were expected from "*Castle*", the actual yield was **48.2** megatons, of which **30.5** megatons were fission products alone.....

"*Redwing*" was conducted under a strict "energy budget," that is, the total explosive yield and the total fission yield (of the entire series) were both confined & restricted to fixed limitations.....



REDWING "TEWA" (07-20-56) 5.0 MEGATONS

The total yield (fixed) limit was approximately **20** megatons. The actual total yield was **20.82** megatons.....and the actual fission yield was **9-10** megatons, and much less than the *Castle* "*Bravo*" fission yield by itself.....The apportionment of the allowed total yield and fission yield, between *Los Alamos Scientific Labs* (**LASL**) and the *University of California Radiation Laboratory* (**UCRL**), were subject to bitter disputes at that time

Many of the "*Redwing*" series included the use of high (fission-fusion) yield "salted" (dirty-fallout) designs, at reduced yields, and a number of tests using "clean" (low-fallout, low-yield) megaton-class devices..... Because of the extensive roster of megaton range tests that were scheduled for "*Redwing*," both *Bikini* and *Enewetak* were used so as to make the shot schedule more tractable.....

This series "proof" tested the **Mk-28** warhead, a light weight, small diameter design (only 20 inches in diameter) and dramatically smaller than most of the "*Castle*" designs; the first three-stage thermonuclear systems ever tested; and tests of designs for both "clean" and "dirty" weapons.... Tests of low yield tactical weapons were also conducted, including some very small diameter, light weight systems (of **5**, **8**, and **11.6** inches) that would later be used in a variety of small, easily transportable nukes, including the **Mk54** (*Davey Crockett*) rifle nuke

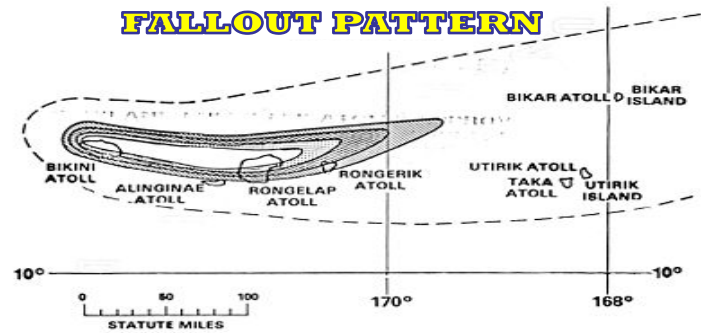
Also included in the "Redwing" series, was the first U.S. air drop of a (3 stage) thermonuclear weapon.....partly as a weapons effects test, and partly as a political demonstration of the *United States'* capability to conduct nuclear attacks....."any place, any time.....and at will".....a bold statement aimed directly at the the *Soviet Union*..... The (*Redwing*) individual (*LASL*) tests used *American Indian* tribe manes..... while the *UCRL* devices were named for birds and musical instruments.....

International Law limits the methods & weapons that belligerents may use against an enemy.....All arms, projectiles, or material calculated to cause unnecessary suffering and unnecessary death are forbidden.....Poison and poisoned weapons are prohibited.....Most opinions also agree on forbidding the use of dum dum bullets (designed primarily to expand or flatten easily in the human body), suffocating and poisonous gases, bacteriological warfare, and radiological weapons.....

Regarding nuclear weapons, the preponderance of legal opinion has the effects of nuclear radiation from these weapons as being "akin to those inflicted by the use of poison or poisoned weapons... thus, in principle, the use of such weapons is illegal." (*International Law Association, Report of Fiftieth Conference held at Brussels, 1962*)..... Most legal opinions do not regard the use of fire weapons such as flame throwers and napalm and incendiary bombs as illegal....."The Laws of War", (*Encyclopedia Britannica Strauss*) issued a brief statement about the results of Redwing tests.....The tests had achieved "maximum effect in the immediate area of a target with minimum wide-spread fallout hazard."..... *Strauss* concluded hopefully that *Redwing* had proven "much of importance not only from a military point of view but from a humanitarian aspect." (*Lewis L. Strauss, Chairman of the US Atomic Energy Commission, quoted in Atoms for Peace and War 1953-1961, Richard G. Hewlett and Jack M. Holl, pg. 347, Univ. California Press, 1989*)

In 1958, the *United States* anticipated the acceptance of a call for suspension of atmospheric nuclear testing and assembled a large number of devices for testing before the moratorium came into effect.....From April through August 1958, **22** near-surface nuclear denotations were conducted on *Enewetak*, either on platforms, barges, or underwater.....while **10** tests were conducted at *Bikini*, **2** tests near *Johnson Island*, and a high altitude test was conducted about **100** kilometers west of *Bikini*.....

RADIATION FALLOUT PATTERN



Most nuclear tests conducted on *Enewetak* were detonated in the northern reaches of the *Atoll* and produced highly localized fallout contamination of neighboring islands, as well as the *Atoll* lagoon.....As a consequence, the northern islands on *Enewetak* received significantly higher levels of fallout contamination containing a range of fission products, activation products, and unfissioned nuclear fuel products..... By the time the test moratorium came into effect on 31 October of 1958, the *United States* had conducted a total of 43 nuclear weapons tests on *Enewetak Atoll*.....

POST TEST ERA & INITIAL CLEANUP ACTIVITIES

Enewetak Atoll continued to be used for defense programs until the start of a cleanup and rehabilitation program in 1977..... There were five feasible approaches considered by the *Nuclear Defense Agency (NDA)* for the cleanup of *Enewetak*..... The final plan called for (**1**) removing all radioactive and non-radioactive debris (equipment, concrete, scrap metal, etc.), (**2**) removing all soil that exceeded 14.8 Bq (400 pCi) of *Plutonium* per gram of soil, (**3**) removing or amending soil between 1.48 and 14.8 Bq (40 and 400 pCi) of *Plutonium* per gram of soil, determined on a case-by-case basis depending on ultimate land-use, and (**4**) disposing and stabilizing all this accumulated radioactive waste into a crater, on *Runit Island*, and capping it with a thick concrete dome.....



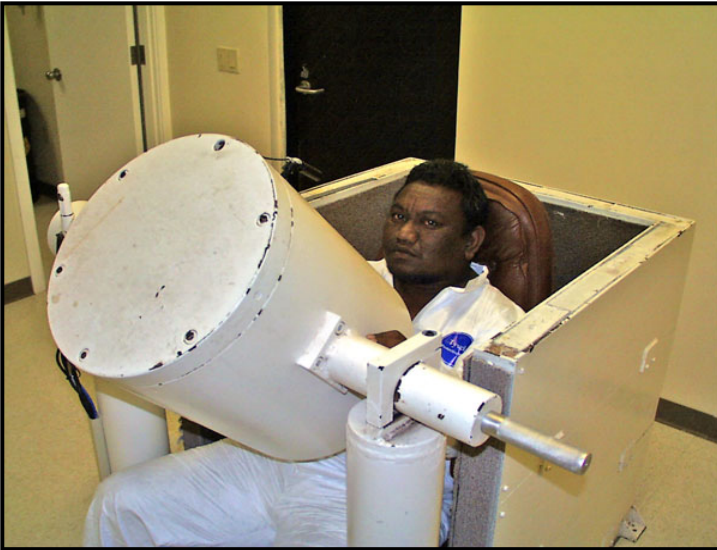
HIGHLY CONTAMINATED SOIL IS MARKED WITH PLASTIC PRIOR TO BEING REMOVED FROM THIS LOCATION

Approximately **6,000** U.S. servicemen were then assigned to the *Enewetak* cleanup operations, with **6** lives lost in accidents, in what became known as the *Enewetak Radiological Support Project (DOE - 1982)* An estimated total of **73,000** cubic meters of highly contaminated surface soil & coral, across **6** different islands in the *Enewetak* group, was recovered by shallow surface scraping.....The *DOE* then selected the (*Hardtack-I*) "Cactus" crater, on *Runit Island*, as the final repository & burial site for the radiation contaminated debris

The *Nevada Operations Office* of the *DOE* was responsible for certification of final radiological conditions on each island upon completion of the project....The *Operations Office* also developed several large databases to document radiological conditions before and after the cleanup operations, and to provide data to update available dose assessments.....

The *Enewetak* cleanup program was largely focused on the removal and containment of *Plutonium* along with other heavy radioactive elements.....However, even during this early period of cleanup and rehabilitation, the adequacy of cleanup of the northern islands on *Enewetak* was brought into question because predictive dose assessments showed that ingestion of *Cesium-137* and other fission products from consumption of locally grown terrestrial foods was the most significant route for human exposure to residual fallout contamination on those atolls affected by the nuclear test programs.....

The people of *Enewetak* remained on *Ujelang Atoll* until resettlement of *Enewetak Island* in 1980..... Between 1980 and 1997, the resettled population was periodically monitored for internally deposited radio-nuclides by scientists from the *Brookhaven National Laboratory* with the use of whole body counting devices and *Plutonium* trace urinalysis tests.....



A WHOLE BODY SCAN IS BEING PERFORMED ON AN ENEWETAK ISLANDER

At a later date, the *Department of Energy* agreed to design and construct a radiological laboratory on *Enewetak Island*, and help develop the necessary local resources and technical expertise to maintain and operate the facility on a permanent basis..... This cooperative effort was formalized in a *Memorandum of Understanding* signed by the *U.S. Department of Energy*, the *Republic of the Marshall Islands*, and the *Enewetak / Ujelang Local Atoll Government* in August of 2000.....

Construction on the *Enewetak Radiological Laboratory* was completed in May of 2001..... The laboratory facility includes both a permanent whole body counting system, to assess radiation doses from internally deposited *Cesium-137*, and clean living space for collecting in-vitro bioassay samples.....Scientists from the *Lawrence Livermore National Laboratory (LLNL)* continue to support the operation of the facility and are responsible for systems maintenance, training, and quality assurance.....

ENVIRONMENTAL CHARACTERIZATION & MONITORING

Scientists from *LLNL* have also developed a wealth of experience in conducting large-scale radiological surveys of coral Atolls..... A typical large-scale sampling mission to the islands involves the use of an *U.S. Army Landing Craft-Utility (LCU)* as a support platform for the collection of food-crop products, soil, ground water, air, lagoon waters, marine biota, fish, animals, and birds..... Many of these products form an important part of the *Marshallese* diet and are analyzed for a range of fallout radio-nuclides.....including Gamma emitting radio-nuclides, such as *Cesium-137, Plutonium-239, Plutonium-240, Americium-241* and *Strontium-90*.....



THIS IS AN ARMY LCU-4 THAT WAS USED AT ENEWETAK

Before we go further, we must regress a bit and look back to the history of *Enewetak*..... Humans have inhabited the Islands of *Enewetak Atoll* for at least **2,000** years.....

Enewetak was not known to *Europeans* until visited in 1794 by the *British* merchant sloop *Walpole*, and the *Brit's* called it "*Brown's Range*" (thus the *Japanese* name "*Brown-Atoll*").... It was visited by only a dozen or so ships before *Germany* decided to colonize the *Marshall Islands* in 1885.....

Then, *Enewetak*, along with the rest of the *Marshall's*, was captured by the *Imperial Japanese Navy* in 1914 during *WW-I*, and (in 1920) was then mandated to the *Empire of Japan* by the *League of Nations*..... The *Japanese* then administered the Island group under the *South Pacific Mandate*, but mostly left local affairs in hands of the (then) traditional local leaders until the start of *WW-II*.....

In November 1942, the *Japanese* built an airfield on *Engebi Island*, but since it was used only for refueling aircraft, flying between *Truk* and other islands to the East, no flying personnel were permanently stationed there and therefore; *Engebi* was protected only with token defenses..... When the *Gilberts* fell to the *United States*, the *Imperial Japanese Army* then assigned a unit from the *3rd Independent Garrison*, previously stationed in *Manchukuo*, to defend *Enewetak*..... And they arrived in January, 1944.....

Of the 3,940 men within the brigade, only 2,586 were ordered to remain, so as to defend *Enewetak*.....They were then supplemented by a few dozen aviation personnel, civilians, and general laborers, but were unable to finish fortifying the Island before the first American assault..... During the *Battle of Enewetak* (in February, 1944) the *United States* captured *Enewetak* in a five-day amphibious operation.....The major combat was on *Engebi Island*, which was the most important *Japanese* installation in the *Atoll*..... Combat also occurred on the main islet of *Enewetak* itself and also on *Parry Island*, the site of a *Japanese* seaplane base.....



Following the end of *WW-II*, *Enewetak* came under the control of the *United States*, as part of the *Trust Territory of The Pacific Islands*, and until the independence of the *Marshall Islands* in 1986.....The local residents were then evacuated, often involuntarily, and the *Atoll* was then used for nuclear weapon testing as part of the *Pacific Proving Grounds Range*

Bodies of *U.S.* servicemen, killed in the *Battle of Enewetak* and buried there, were exhumed before testing commenced and those remains were then returned to the *United States* to be re-buried by their families.....Local residents were permitted to return in the 1970s, and on May 15, 1977, the *United States* directed the military to decontaminate the Islands.....



MILITARY PERSONNEL ARE LOAD CONTAMINATED MATERIALS ONTO AN ARMY LCU-4 FOR TRANSPORT TO THE CACTUS SITE

All branches of the U.S. military participated in this effort.... Then, in 1980 the *United States* finally declared the Islands safe for re-habitation

In 2000, the U.S. awarded in excess of **\$340** million to the people of *Enewetak* for loss of use, hardship, medical difficulties and further nuclear cleanup.....This award does not include the approximately **\$6** million annually budgeted by the *United States* for additional education and health programs in the *Marshall Islands*.....



CONCRETE DOME COVERING RADIATION SOIL DEPOSIT

It was later suspected that *Cesium-137* may have contributed to genetic anomalies experienced by native *Marshallese*, and in the deformity of coconut crabs, in and around the *Enewetak* Island group After careful detective work, scientists discovered the *Cesium-137* was being absorbed by the roots of coconut trees, traveling to the budding fruit, and collecting in the coconut milk and meat..... Therefore; coconuts consumed by humans, or by coconut crabs caused genetic mutations with a host of differing

health effects, including second generation mutations, as shown in the bottom photo of a mutated coconut crab.....

Similar conditions existed when *Radio-iodine-131* fallout contaminated the food supply of sheep, cattle and goats downwind of the *Nevada Test Site*.... The *I-131* contaminated their milk, and when those milk products were then consumed by humans, it resulted a rapid increase in the development of thyroid cancers resulting in a high rate of premature deaths.....

After the *Russian (Chernoble)* nuclear power plant meltdown accident..... the resulting radiation fallout pattern covered all of *Scotland*, and most of northern *England*, contaminating the natural food supply for grazing sheep & goats..... *British Scientists* then instructed sheep farmers to mark their animals with color codes..... each generation with a different color, until the birth of the fifth generation, after which all milk and meat products could then be sold into the general food supply chain for consumption



DEFORMED (ENEWETAK) COCONUT CRAB

It was determined that after the fourth generation, any trace of *I-131* genetic mutation or other deleterious health effects would not be present It would be interesting know the extent of harm that may have been inflicted on those farmers who consumed milk, eggs and meat products from other farm animals they may have raised on their "contaminated" farmlands

SHEEP - WOLVES OR SHEEP DOGS ??

Col. Gregory "Pappy" Boyington, USMC (born 12-04-12 & died 01-11-88) was an **American** fighter ace..... *Boyington* flew initially with the *American Volunteer Group (Flying Tigers)*.....



during the second *Sino-Japanese War*, and later commanded the famous *USMC Squadron VMF-214 (The Black Sheep Squadron)* during *WW-II*.....Just before the end of the war, *Boyington* was shot down, and imprisoned on the outskirts of *Nagasaki, Japan* After the Japanese surrender, the *U.S.S. Dorbolo* was on hand to take aboard prisoners from the (*Nagasaki*) *Omari Prison Camp*, on

August 29, 1945..... Among those 149 prisoners was "*Pappy*" *Boyington* and *Cmdr. Richard O'Kane*, who served on the

(submarine) *U.S.S. Tang*..... The *Dorobolo's* Officers and crew members were stunned to see *Boyington*, as everyone thought he had died in the plane crash..... For their heroic and honorable service to their country, both *Boyington* and *O'Kane* were awarded the **Medal of Honor**..... and *Boyington* was also awarded the **Navy Cross**.....



SHEEP - WOLVES OR SHEEP DOGS - CONT.

University of Washington: Jill Edwards, a junior math major, and member of the U.W. Student Senate, opposed a proposed Memorial for (U.W. graduate) **Greg "Pappy" Boyington**, a **WW-II Medal of Honor** recipient, and a real American Hero... Edwards said that she didn't think "it was appropriate to honor a person who killed other people, and also said that a member of the U.S. Marine Corps. was **NOT** an example of the sort of person the University of Washington wanted to produce, or even recognize".....

Upon hearing of this gross example of disrespect for our men and women in uniform, **Lt. General Brett Dula** responded to Ms. Edward's position with the following comments.....

To: Ms. Jill Edwards – University of Washington Student Senate Leader.....

Subject: Sheep, Wolves & Sheep-Dogs.....

Dear Miss Edwards: I read your [student activity] report regarding the proposed memorial to **Medal of Honor** recipient, **Col. Greg "Pappy" Boyington**, (USMC - deceased) and I suspect you will have received (by now) a bellyful of angry e-mails, & other correspondence, from a bunch of highly insulted conservative folks like me

You may be too young to appreciate fully the sacrifices of generations of brave and honorable servicemen (and women) upon whose shoulders you, and your fellow students, stand..... I forgive you for the untutored ways of youth and your apparent naiveté.....It may be that you are just simply..... a "Sheep."

There's no dishonor in being a "Sheep", as long as you know and accept what you are a "Sheep"..... Please take a couple of minutes to read the following attachments, and while doing so, be grateful for the millions of brave American "Sheep-Dogs" who permit you the freedom to express your bad, ill-gotten, and even radical ideas.....

Lt. General Brett "Sheep-Dog" Dula - (USAF Retired)

"ON SHEEP - WOLVES & SHEEP DOGS"

By: Dave Grossmen – Ph.D. (Lt.Col. – U.S. Army Rangers Ret.)

[Author of "On Killing"]

Honor never grows old, and honor rejoices the heart of age.... It does so because honor is finally about defending those noble and worthy things that deserve defending, even if it comes at a high cost....In our time, that may mean social disapproval, public scorn, hardships, persecutions, or as always..... even death itself..... The question remains: *What is worth defending ?? What is worth dying for ?? What is worth living for ?? What is worth the worth ??*

William J. Bennett, during a lecture to the United States Naval Academy, (November 24, 1997) remarked that a Vietnam Veteran, and old retired Colonel, once said this to him.....

"Most of the folks in our society are Sheep.....They are kind, gentle, meek & productive creatures..... who can only hurt one another by accident." You will soon learn that this statement is both accurate and true.....I must point out that the current murder rate is approx. **6** per **100,000** per year, and the aggravated assault rate is approx. **4** per **1,000** per year.....What this means is that the vast majority of Americans are not inclined to hurt one another.....

Some estimates say that every year, approximately two million Americans are victims of violent crimes...This is a tragic & staggering number, and perhaps an all time record rate resulting

from violent crimes against Americans citizens...But there are approximately **300** million Americans, which means that the odds of being a victim of violent crime is considerably less than one in a hundred on any given year... Furthermore, since many violent crimes are committed by repeat offenders, the actual number of violent citizens is considerably less.....

Thus there is a paradox, and we must grasp both ends of the situation..... We may well be in the most violent times in history, but violence is still remarkably rare.....This is because most citizens are kind, decent people who are not capable of hurting each other, except by accident or under extreme provocation..... Thus, I refer to these citizens as "Sheep".....And I mean nothing negative by calling them "Sheep".....

To me, it is like a pretty blue robin's egg..... Inside it is soft and gooey, but someday it will grow into something wonderful.... But that egg cannot survive without its hard blue shell.....

Police officers, soldiers, and other warriors are like that shell, and someday the civilization they protect will also grow into something wonderful.....For now, though, they need warriors to protect them from all predators

Then there are the "Wolves," and the "Wolves" have a natural tendency to want to feed on the "Sheep," without mercy..... If you do not believe there are "Wolves" out there who will feed on the flock without mercy, you had better rethink your position..... There are evil men in this world, and they are capable of evil deeds.... The moment you forget that, or pretend it is not so, you become a "Sheep" And, there is no safety in denial.....

And then, there are "Sheep-Dogs," and I am a "Sheep-Dog"..... I live to protect the flock while confronting the "Wolves".....If you have no capacity for violence then you are a healthy productive ("Sheep") citizen..... If you have a capacity for violence and no empathy for your fellow citizens, then you have defined an aggressive sociopath, and therefore; you are inherently a member of the "Clan-of-Wolves".....

But what if you have a capacity for violence, and a deep love for your fellow citizens? What do you have then? This defines the "Sheep-Dog" warrior, and someone who is walking the hero's path..... Someone who can walk into the heart of darkness, into the universal human phobia, and walk out unscathed..... Let me expand on this old soldier's excellent model of "Sheep, Wolves, and Sheep-Dogs".....

We know that the "Sheep" live in denial, for that is inherently what makes them "Sheep".....They do not want to believe that there is any evil in the world.....They can accept the fact that fires can happen, which is why they want fire extinguishers, and fire sprinklers, and fire alarms in their kid's schools.....

But many of them are outraged at the idea of putting an armed police officer in their kid's school.... Our children are thousands of times more likely to be killed or seriously injured by school violence than fire, but the "Sheep's" only response to the possibility of violence is constant self denial.....

The idea of someone coming to kill or harm their child is just too hard to grasp, and so they chose the path of denial.....The "Sheep" generally do not like the "Sheep-Dog," as it looks a lot like the "Wolf"..... He has fangs and the capacity for violence.....The difference, though, is that the "Sheep-Dog" must not, can not, and will not ever harm a "Sheep".....

"SHEEP" 1



"SHEEP" 2

Any "Sheep-Dog" who would intentionally harm the lowliest little "Lamb" will be punished and removed.....The world cannot work any other way, at least not in a representative democracy or a republic such as ours.....Still, the "Sheep-Dog" always disturbs the mentality of "Sheep".....Oh my.....isn't that so sad.....

A "Sheep-Dog" is a constant reminder that there are "Wolves" rummaging about in the land....."Sheep" would prefer that he didn't tell them where to go, or give them traffic tickets, or stand at the ready in our airports in camouflage fatigues, holding an M-16 rifle, and protecting all those citizen "Sheep".....

The "Sheep" would much rather have the "Sheep-Dog" cash in his fangs, spray himself with white paint, and stand around eating a little grass, until a big bad "Wolf" shows up.....Then the entire flock tries desperately to hide behind that one lonely, fangless, pray-painted, "Sheep-Dog," while frantically shouting "sic'em... damn-it sic'em.....why ain't you sic'n em" ???.....

Look at what happened after *September 11, 2001* when a pack of "Wolves" pounded hard on America's door..... Remember how Americans, more than ever before, felt differently about their law enforcement officers and military personnel..... Remember how many times you heard the word hero.....

Understand that there is nothing morally superior about being a "Sheep-Dog;" it is just what you choose to beAlso understand that a "Sheep-Dog" is a real funny kind of critter.... He is always out there patrolling the perimeter, sniffing around, checking the breeze, barking at things that go bump in the night, and yearning for a righteous battle.....that is, young "Sheep-Dogs" yearn for a righteous battle.....Older "Sheep-Dogs" are a little more seasoned and wiser, but when they have to, or need to, they move to the sound of the guns, and will fight right along-side the young ones, with that same dedicated purpose, and really pissed attitude

You need to understand how the "Sheep" and the "Sheep-Dogs" think differently.....The "Sheep" pretend that the "Wolf" will never show up..... but the "Sheep-Dog" always lives for the day when that "Wolf" comes calling.....yep, that's what he does.....

After the attacks on *September 11, 2001*, most of the "Sheep," said, "Thank God I wasn't on one of those planes"..... But most "Sheep-Dogs," would have said, "Dear God, I wish I could have been on one of those planes. Maybe I could have made a difference".....

When you are truly transformed into a warrior and have truly invested yourself into the role of the warrior, and you want to be able to make a difference.....There is nothing morally superior about being a "Sheep-Dog," warrior, but he does have one real advantage.....only one.....and that is, he is able to survive and thrive in an environment that will destroy 98% of the rest of the general population.....

There was some research conducted a few years ago with individuals convicted of violent crimes.....These "cons" were all in prison, incarcerated for serious predatory crimes of violence, including assaults, rapes, murders and killing law enforcement officers.....you name it..... they did it.....

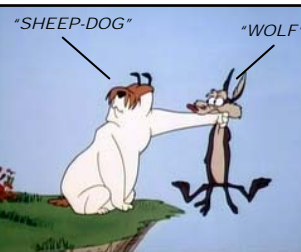
The vast majority said that they specifically targeted victims by body language, such as a slumped walk, or visibly passive behavior, or a lack of awareness, or just plain ignorance of their surroundingsThey chose their victims like those big African predator cats do..... Those cats would carefully scope out their intended victims.....and, when the opportunity presented itself, they selected the one that was least able to protect itself..... A classic example of predator's cunning, cleverness and dedication to destruction of their innocent victims....

Some people may be destined to be "Sheep," while others might be genetically primed to be "Wolves"..... or, in many cases, some people will naturally tend to become "Sheep-Dogs"..... But I believe that most people can choose which one they want to be, and I'm proud to say that more and more Americans are choosing to become "Sheep-Dogs".....

Seven months after that terrorist attack on *September 11, 2001*, *Todd Beamer* was honored in his hometown of *Cranbury, New Jersey*.....*Todd*, as you may recall, was the man on *Flight 93* (over Pennsylvania) who called on his cell phone to alert an operator that his United Airlines flight had been hijacked.....

When he learned of the other three passenger planes that had been used as weapons, *Todd* dropped his phone and uttered the words "Let's-Roll," which authorities believe was a signal to the other passengers to confront those who hijacked his flight....

In one hour, a transformation occurred among those passengers, who were athletes, business people & parents. They were transformed from "Sheep" to "Sheep-Dogs," and together they fought the "Wolves," ultimately saving an unknown number of fellow citizen's lives on the ground..... There is no safety for honest men except by believing that evil men will do evil things to honest men.....Here is the point I like to emphasize, to the



thousands of police officers and soldiers that I speak to each year.....In nature the "Sheep," that is, the real "Sheep," are born as "Sheep"..... And likewise, "Sheep-Dogs" are also born to be "Sheep-Dogs." On the other hand, "Wolves" are born to be natural predators, and didn't have a choice

in their natural selection process.....

But humans are not a critters of nature..... As a human being, they can be whatever they want to be...Such a choice is a conscious, and individual (moral) decision..... If you want to be a "Sheep," then you can be a "Sheep" and that is okay, but you must understand the price you may have to pay.....

When the "Wolf" shows up, you and your loved ones are going to die if there is not a "Sheep-Dog" close enough at hand to protect you..... If you want to be a "Wolf," you can be one, but the "Sheep-Dogs" are going to hunt you down and you will never have any rest, or safety, or trust or any lasting love, cause you will always be looking over your shoulder for that damn "Sheep-Dog".....

If, on the other hand, you want to be a "Sheep-Dog" and walk the warrior's path, then you must make a conscious and moral decision.....every day to dedicate, train and prepare yourself to thrive in that toxic, corrosive moment when a "Wolf" comes knocking at the door.....

But the "Sheep-Dog" quietly asks himself, "Do you have any idea how hard it would be to live with yourself if your loved ones were attacked and killed, and you had to stand there helplessly because you were unprepared for that day?"..... It is self denial that turns people into "Sheep"..... And "Sheep" are psychologically destroyed by combat because their only defense is denial, which is both counter productive and destructive, thus resulting in fear, helplessness and horror when that big bad "Wolf" shows up.....

Fear and denial will always kill the "Sheep"..... It kills them at their moment of truth, when they are not physically prepared, or because they didn't train for such situations, so their only defense was wishful thinking.....

This is what they get when they choose to bury their heads in the sands of ignorance.....

And so I say to you, do not look down on the "Sheep-Dogs" of the world, as they are the only defense you may have against ignorance of this type, and the ignorance you have exhibited in your statements regarding *American Hero*, and *Medal of Honor* recipient..... Gregory "Pappy" Boyington.....

And do not forget the moral lessons learned from the brave men and women who currently wear the uniform Even after being wounded on the field of battle, and after those wounds have healed, and after losing an arm.....or a leg, they continue to request permission to go back and re-engage in the fight against the "Wolves" of the humanity.....God love em all, for exhibiting such dedication.....guts & bravery..... on our behalf.....

We wish to thank Lt.Gen. "Sheep-Dog" Dula for this article

VOICES FROM NUCLEAR HELL ! ! ! !

OPERATION SANSTONE

I'm Jack B. Green, and I was at Operation Sandstone in 1948.... I do not remember the ship that took me to Enewetak, but I think it was a troop ship, my record shows it was the *U.S.S. Albermarle (AV-5)*. That was more than 50 some years ago, and I am now 80+ years of age, and my memory ain't what it used to be.... Upon arrival at the Atoll, five radiomen and myself were sent to *Jap Island*, where we installed a Radio station, including transceiver, for contacting the destroyer on picket duty at the deep channel entrance (the ship was about one or two miles off shore).....

We also installed a receiver to monitor the sonar buoys that were out at the entrance to deep channel....If the buoys heard a contact, the operator on duty would notify the picket ship and they would check it out. The purpose was to make sure no unauthorized submarines got into the Atoll. Someone was on duty around the clock.

We slept in Quonset huts, and it was like camping out all the time we were there. Someone came over by boat each day and brought our meals, most of the time "C" rations. The radio was in a wooden tower that was close to the deep entrance.

When the A-bomb went off we turned our backs put our arms over our eyes, after a short while we put our goggles on and turned around, what a sight that was.....watching the mushroom cloud. I remember the heat wave when it hit was like sticking your head in a heated oven.....

I also remember that there were thousands and thousands pieces of equipment that was left on the island, many mega bucks, also there were washing machines that the GI's had built out of 55 gallon drums, and they were powered by the wind.....

That's about all I can remember.... I would like to hear from anyone that may have been there.... My rate during Operation was Radioman 1st. Class, and when I finally retired in 1958, I was a Chief Radioman..... I have been having some health problems lately, and my Doc says it could be caused by radiation from those test bombs

Jack Green, Atomic-Veteran – current situation, unknown

GREENHOUSE

I am **Roy Norman**, and I joined the Navy 5 days after Pearl Harbor as an E-1 and retired 30 years later as an O-4, and I am now a 86 year old retired Navy Officer. Considering all of the radiation exposure I have had, it is a wonder I am still here... Trying to find old shipmates I have served with only brings me information that they have all died.....

Some of natural causes and a lot of others from cancers..... In Feb. of 1948 I was assigned to the *Navy Special Weapons Unit # 471*.....This was the first Navy unit assembled to put Atomic bombs together for storage and training, and I was an Electronic Tech., 1st Class at the time..... I was responsible for handling the Nuclear components for the "*Fat-Man*" and the "*Little-Boy*" bombs. Why I was chosen for this duty, I have no idea.

On 15 Feb, 1951, I received orders for TDY at the *Naval Research Laboratory, Wash. D.C.* There I was assigned to a multi service team assembling, repairing and installing equipment to measure the neutron growth in the weapon during the first 200 micro seconds of detonation..... It involved a lot of equipment, two 7 foot relay racks full, for each measurement.... After I had become familiar with the equipment, I was ordered to escort some priority gear to a place called *Enewetak Atoll*, in the *Marshall Islands*.....This was in the days before jets and so it took several days for us to get out there.

I arrived at *Enewetak* on 16 March. Would live on and operated out of *Perry Island* for the next two months. It was a long trip across the lagoon in an LCT.....Our site was a dense concrete cube 30 feet on a side, set 10 feet into the sand.



THE U.S. NAVY DEVELOPS NEW "FROG-DOG" TEAM THAT WILL PATROL THE SOUTH TEXAS BORDER AREA FOR HOMELAND SECURITY. . .

Our room in the center was 10 feet on each side. We had 12 relay racks, all identical in this room, and we had no ventilation.... We were then told that we would be a part of the "Greenhouse" nuclear weapon tests..... For the "Dog" and "Easy" test we were evacuated on either an LST or a merchant ship, can't remember which one, to below the horizon, and came back the next day to get ready for shot "George".....

I knew this would be different because we were always carrying several Dewars of liquid air..... or at least, we thought it was liquid air, but we later found out it was a mixture of *Deuterium & Tritium* gas, and was not only dangerous to handle, but could cause bad radiation sickness

When we had all of our tests run and they were ready, we closed up the water tight door,

placed two feet of lead bricks against the door and filled the last 8 feet of the passageway with sand bags..... The next morning (9 May) at 0930, this weapon was set off, and it had a yield of 225 kilotons. I heard one of the Scientists tell an Engineer that this test was the proof that they needed to build a Hydrogen bomb, and sure enough... they did just that

As I understand it, the major yield was from a capsule of *Deuterium-Tritium* that weighed less than 1 ounce..... For a reason I was never told, we did not evacuate the Island for this test. Maybe they did not think it would work, but let me tell you it did work.

I was standing on the beach of *Perry Island* facing away from the detonation and when it went off, and I could feel the heat on my back. When we could turn around and take off our dark goggles, I saw a very large rolling brown cloud. I was glad to see it begin to lift off the surface..... Looking off to the East, I could see the shock wave bending the palms over as it advanced across the lagoon. Suddenly there was a 6 ft. high wave of water advancing toward us with the speed of sound. It was a loud roar and broke a lot of the windows out of the building behind us.

Because the data on our instruments was recorded on film, our NRL supervisor flew over the site that afternoon and decided it was too radioactive for us to go in to recover anything..... The (estimated) radiation read on the plane was 50-R at the site..... The next morning 3 other NRL members and I boarded an LCT for the long trip to the blast site.....There were Army and Air Force members also going to their own test sites along the way. As we approached *Eberiru Island* the water became green and there were a lot of dead birds on the beach and floating in the water..... LCT's have a trough for the toilet and one of the Army men had a survey meter with him and he went in and read the radioactivity of the water at 10-R..... At that point we all got on top of the trucks on board, and when we let down the ramp, the trucks drove off on sand that had turned to glass, that was at least 1 ¼ inches thick..... I had been to the "*Trinity*" site in July of 1949 and the soil there was fused to about 1/4 inch depth. They called this black glass "*Trinitite*"......

We ran off to our site and started taking out the sand bags and then the lead bricks..... The maximum reading on my dosimeter scale was 10-R, and it already at 3.2-R when we got the site open..... The other 2 men rushed in, put the film in a lead lined box we had left there and brought it out and handed it to the pilot of a small Army plane..... He was supposed to come back and pick us up, but that didn't happen..... While standing in the hot passage way, we had a message saying the plane was down and it would be 2 hours before they could pick us up.....

It was too "hot" to stay in the passage and certainly too "hot" to stand outside..... We made a rush for the East side of the island and out into the fresh Ocean water that being blown in by the trade winds. We all sat there, up to our noses, till the plane came in and picked us up.....

There had been a very short, fierce, 6 hour battle for that island in 1944.....and bullets still littered the sand we were sitting on.... We had to have an army demolition expert there as the trenches were dug for the signal cables....The ditcher kept bringing up belts of machine gun bullets and on occasion an unexploded shell or a bomb case... We even uncovered a few skeletons which were then reburied on another part of the Island.....

When we got back to *Perry Island*, I took two hot showers and I threw my clothes and shoes away..... Then me and the guys enjoyed a good cold beer to top off an exciting day... About 5 days later, the decision was made that I had enough radiation exposure, that measured more than 5-R by this time.....

I was then ordered to escort some equipment back to NRL. After landing on the West Coast, I took another plane east, and on the way, was able to talk the pilot into stopping in *Albuquerque*..... and the pilot asked the tower call my wife to let her know we were arriving.....

That day was 20 May, 1951 and me and the wife had been married 1 whole year..... I got to hold her and kissed her and then left her a bag of dirty clothes and the promise I would be home again, as soon as possible..... And then I was assigned to be at five "*Tumbler-Snapper*" shots at the Nevada Test Site.....

That was 50+ years ago, and it's difficult getting around these days, and I have developed severe arthritis, skin cancers, bone cancer, and other internal hurts & pains and I am tired of trying to convince the local **VA** folks that those tests may be the culprit for all those ills and hurts Maybe we will get some help from the *Government* one of these daysjust maybe.....

Roy Norman – Atomic-Veteran – deceased

CASTLE

I am *George T. Wright*, and I was a crewman aboard the *U.S.S. Belle Grove (LSD-2)* during it's deployment to *Enewetak Atomic Test Area* in March of 1954..... Our mission was in support of the *AEC* during the 7 scheduled nuclear test shots.... We were on station for test shot "*Bravo*."

We initially turned away from the fireball, and after the light flashed by, we were told to turn around and view the balance of the test yield, but owing to someone's oversight it actually yielded about 15 megatons, which I later found out was a whole hell-of-a-lot more than planned..... In addition to that oversight was another one, which involved the high altitude wind direction.

Somebody got that wrong also..... As a result well over 7000 sq. miles of the *Marshall Islands* area was heavily contaminated with *Cesium-137* fallout from this test only..... Within this area was a number of *U.S. Navy* ships....The fallout first heavily contaminated the *U.S.S. Bairoko (CVE-115)*..... Four other ships also received varying levels of heavy fallout. Among them was the *U.S.S. Belle Grove (LSD-2)*. The fallout appeared as a powdery snow-like substance. We had no idea that it was radioactive, and harmful I was out on deck a number of times when it was falling. I believe that I inhaled a quantity of the radioactive *Cesium*....

Shortly thereafter we were all advised to get off of the weather decks, and shower. I was later assigned with several others to proceed to a *LCM* which needed to be scrubbed down to reduce it's radiation levels. We done this for a period of about 3 hours. I believe that the finer particles of *Cesium* was still falling, and that we were still ingesting it into our respiratory tract.

Atmospheric radiation was also still elevated.... When we returned to the *Belle Grove* I contacted a *Corpsman* for advice. He told me to be at sick call the following morning.....He and an Officer asked me some questions, then told me that it was doubtful that I had gotten a dangerous dose of radiation.... That was the last communication regarding the issue.....

Much later, in 1961, and 5 years after my discharge, I began to have intermittent ill feelings..... I went to a doctor, and after a battery of tests was told that I had a stomach ulcer..... I was treated for the ulcer many times over a period of a year.

During that time I began to intermittently experience urinary blockages, some which required catheterization.... After a series of exams it was found that I needed to have my prostate gland surgically removed because of a malignancy inside of it.....

In the period after that surgery, and up through to the present

I have contracted moderate to severe psoriasis, and compounded by moderate to severe psoriatic arthritis.....I believe that my overall condition is secondary to, and possibly resultant of breathing in unknown quantities of microscopic particles of radioactive *Cesium-137*, or *Cesium-Iodide* as it was known in the 50's..... This material continued to fallout for a very long time after the test shots.....This was in evidence by the elevated atmospheric radiation counts.....

I tried for several years to get the attention of the **Veterans Administration** regarding my case.....But it was obvious from the beginning that there is little sympathy towards us..... In subsequent efforts I have also learned that unless a person can prove with written fact beyond question that his or her condition is the **DIRECT** result of the radiation exposure there will be little chance for a monetary compensation.....

The Government also uses the argument that because you are 75 or over you have lived to the average life expectancy of the U.S. male, and had you been ill from any form of cancer you would have already passed away..... They allege that this is because all forms of cancer appreciably shortens human life.....

But in case that doesn't work then they will point out that the *U.S. Federal Government* is not liable for injuries to military personnel while on active duty..... Therefore they are exempt from court judgments..... Now that's tuff-stuff for any wounded veteran to have to swallow.....

George T. Wright – Atomic Veteran - deceased

TAXPAYERS MAY FUND RADIATION CLEANUP

---- Chicago Tribune – April 29, 2010 ----

Warrenville, IL. - A factory called *Rare Earths Facility*, in West Chicago, began contaminating groundwater with *Thorium*, *Uranium* and *Radium*, in 1932.....Then, in 1973, *Kerr McGee Corp.* took over the mill and ran it until it closed in 1973.....

The *Kerr McGee* used the radioactive isotopes to make gaslight mantles and it contaminated both *Kress Creek* and the *West Branch of the DuPage River*..... In 2006, *Kerr Mcgee* spun-off a new company, and named it *Tronox*, which then inherited the *REF's* overwhelming pollution liabilities.....

The partially cleaned up *Thorium* laced creek runs through residential neighborhoods where in the past uniformed locals used contaminated mill tailings for fill in their yards.....

Since the contamination came to light, private wells have been capped and a local prohibition on any new well digging was imposed on the locals.....*Tronox* has constructed a facility to treat groundwater or water used in "washing" affected materials.....If successful, ground-water decontamination will take between 25 and 90 years to complete.....

The \$500 million clean-up project is presently the largest privately funded cleanup in the United States.....although the cost may be dumped onto the local taxpayers.....

Tronox filed for bankruptcy in January, and work on the seven-mile-long area of contamination was halted.... By inheriting *Kerr McGee's* toxic legacy, *Tronox* was burdened with 120 lawsuits from across the country, including cases of perchlorate poisoning at *Henderson, Nevada*, creosote contamination at *Somerville, New Jersey*, and radioactive contamination in *Cushing, Oklahoma*.....

Tronox is spending \$30 to \$50 million every year on cleanup projects and legal fees, but the convenient bankruptcy may free the culprits of all financial responsibilities and so the taxpayers get ripped one more time

POTASSIUM TABLETS AVAILABLE AGAIN

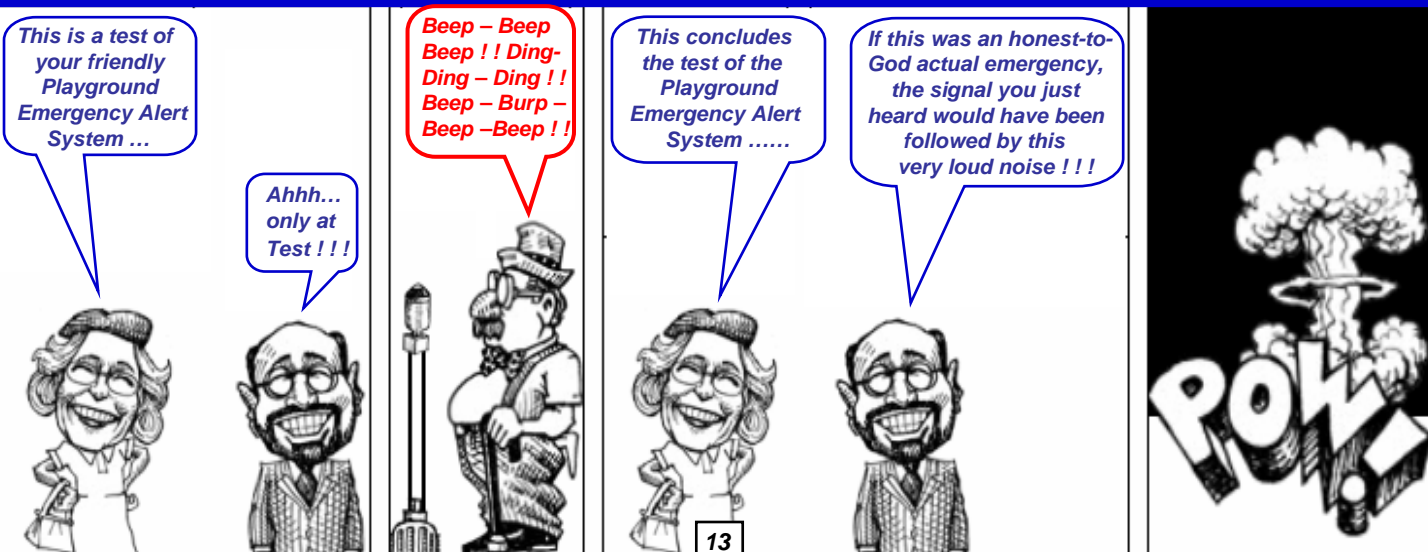
Asbury Park Press - April 19, 2010

Washington, D.C.: The *Nuclear Regulatory Commission* (**NRC**) has approved the continued distribution or replenishment of *Potassium Iodide* (**KI**) tablets to States that request them..... *Potassium Iodide* can help reduce the risk of thyroid cancer by blocking the thyroid gland's adsorption of *Radioactive Iodine* (**I-131**), which is dispersed massively during nuclear reactor accidents.....

The pills would be used by residents living within 10 miles of existing nuclear reactors and used in the event of a atmospheric radiation contamination event..... The move augments a previously authorized (onetime) distribution of the pills In 2002.....

Responding to the 2002 program, *Pierce County, Minnesota*... near the *Prairie Island Reactors*... officially rejected the free medications after it agreed that residents would be given a "false sense of security," and that they could feel "invincible" to radiation without sufficient educational materials.....

A 1962 Emergency Alert Test. . .Could this really happen in 2015 ???



National Association of Atomic Veterans, Inc.

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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.)

Date:	Signature	NAAV has my (our) permission to publish this information:	Yes	No
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ANNUAL membership dues are \$ 20.00 or LIFE membership dues are \$ 200.00

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