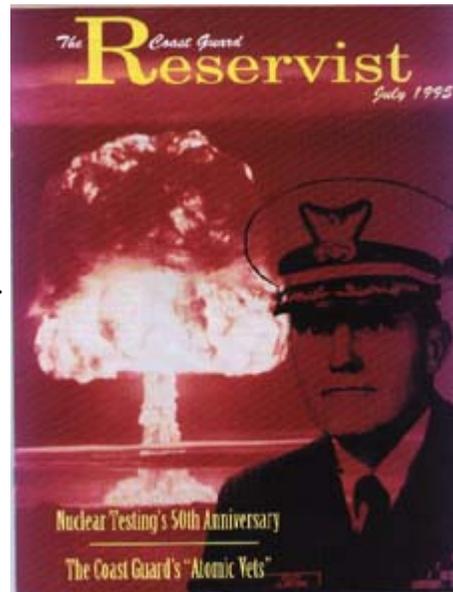




**By CAPT J. Richard Hope, USCGR (Retired)
Former Commanding Officer, LORSTA Eniwetok**

Some readers may recall "Steaming As Before: The Story of One Atomic Vet" published in the July 1995 edition of The Coast Guard Reservist. That Nuclear Testing 50th Anniversary article, written by Coast Guard Reservist LT Barry S. Roffman, recounted experiences of CAPT Tad D. Kelley, USCGR, who had served as a USN radarman on destroyers during the mid-1950s. This follow-up feature, written in first person by CAPT J. Richard Hope, gives the perspective of the Commanding Officer of Coast Guard LORAN Station Eniwetok in the Pacific in 1950-51. RADM Russell R. Waesche, Jr., USCG (Ret.) of Leawood, Kan. in reviewing this article, says that, "CAPT Hope's reminiscences fill a void in the Coast Guard's part in the mid-Pacific atomic bomb tests and should be interesting and important reading for all Coast Guardsmen." CAPT Hope has dedicated this article to the late CAPT Loren E. "Zeke" Brunner, a 1935 graduate of the Coast Guard Academy, who passed away Dec. 25, 1994. CAPT Brunner was instrumental in establishment and improvement of much of the Coast Guard's work in Long Range Aids to Navigation (LORAN).



I was serving as an ensign on the buoy tender Magnolia based at Yerba Buena Island, San Francisco, when the dreaded orders befell me one morning in March 1950 — report as Commanding Officer, USCG LORAN

Transmitting Station. Although grateful for the opportunity to assume command, it also meant one year of isolated duty in the Pacific.

That afternoon, I took the train home to Berkeley wondering just how I might break the news to my wife of 14 months...and how it would affect our lives. Neither of us could possibly imagine what was going to transpire. But then, as now, Coast Guard couples and families knew how to cope.

I arrived in CCGD14 (Hawaii) to be greeted by "the word" from CDR (later RADM) O.R. Smeder, "You are to go to USCGLTS Eniwetok as Construction Supervisor and Prospective Commanding Officer...." When I departed, my wife, Jeanne, lived alone in Hawaii for the 10 months.

So began a most interesting experience that has made me a Coast Guard "Atomic Vet." This includes being a belated object of study by the Defense Nuclear Agency of Alexandria, Va., which is responsible for the medical history review of any military personnel participating in, or exposed to Nuclear Testing.

Travelling to the Nuclear Test Site (NTS), Eniwetok, in the 1950s and early 1960s, all visitors had to land at and were screened through the U.S. Naval Station and Air Facility, Kwajalein. As I landed there in the mid-Pacific fall of 1950, both islands still showed many scars from the very heavy U.S. invasion fighting from World War II.

Kwajalein was a family station while Eniwetok was strictly a male bastion in the chaotic throes of the hasty departure by an Army Engineers Construction Battalion. Their mission to reconstruct the NTS was abruptly ended by the outbreak of the Korean War. Eniwetok Atoll was populated by a U.S. Army Corps of Engineers command; a quartermaster company for housekeeping; a port (waterfront) company to unload ships; an Air Force Base operations group; a Navy liaison office; and a significant number of civilian construction supervisors and leading trade mechanics.

My first on-site visit to the LORAN station on Eniwetok was a shock. CCGD14 had thought the building for the Coast Guard would be completed by early November when the CGC Kukui would enter the atoll and off-load all station equipment for installation under cover. But in mid-October, the site still had three or four quonset-type steel buildings that were falling apart and a maze of heavy truck trails leading to the northeasterly edge of the adjacent barrier reef, then a large pit visible at low tide. This had been blasted out to provide the coral rock and gravel used to upgrade the single air strip into what was then a very suitable system of concrete taxiways, parking strips, and a two-and-a quarter mile runway.

Shortly after my arrival, I was joined by ETC Charles Ogle, the leading technician for the station installation and test period. He was a happy, near-bald "old" man, old at least to a young ensign, but he possessed the talents and leadership to accomplish all work that we faced in the following five months. In the next four weeks, we badgered and cajoled our Army hosts to clear our building site of the quonsets and to bulldoze a semblance of a level site that eventually became the grounding web of copper wire for the three-pole antennas that were necessary at that station. The task ahead was indeed formidable but American "know-how" and Coast Guard "can-do" all were working together for the nuclear test site and Eniwetok LTS to be fully operational by the early spring of 1951 when the OPERATION GREENHOUSE Test program was scheduled.

A concrete slab from one of the quonsets was left to serve as the storage location for the station equipment when it arrived. So, we felt ready when CGC Kukui was seen on a November morning coming to one of the ship anchorages off-shore from our location.

EN1 Doreston L. Carmen, senior petty officer and my assistant for five months after Ogle departed had been a Navy engineman in WWII. One of the first USCG enlistees as an American of African descent who could serve other than as a cook or steward, he was at all times an exemplary "jack-of-all-trades" and a gentleman who has remained my highly respected and treasured friend.

With equipment arrival and a planned schedule of six months for installation, hookup, testing and system calibration...and no building or even its foundation in sight, the Coast Guard crew faced a formidable task. I pleaded with the Army's Col. William Lux, Corps of Engineers, which elicited that "all work here is high priority; you will just have to get by with what we can allocate and when."

So, all hands soon became experienced at shovel digging for foundation footings and cable groundwire trenches. About 20 to 30 soldiers from the Army's Transportation Corps did help with all kinds of "grunt work." However, the bulk of construction, including all copper cable runs for ground wires and the connections to six-foot long ground stakes sledge-hammered into the coral sand, was done by the Coast Guard crew, who had not expected to be general laborers and builders. We persevered and by early January 1951, our air-conditioned building with air-lock entries and screened wire inner rooms for electronic isolation was ready and equipment finally began to fill the designated spaces. Wood stick antenna poles went up, supported by extensive guy wires, a grounding system was metered out for continuity, and antennas and aircraft warning lights were rigged. Equipment and system tests could begin.

In 1951, nuclear tests were served by a fleet of approximately 12 WWII B-17 planes that had been outfitted for drone operation; i.e., complete flight operations with no personnel in the aircraft. They were landed by ground equipment signaling stations and flown by "control aircraft" that could operate at a "line-of-sight" distance from the drones. In this way, the B-17 drones could take off, fly designated flight plans including penetration into the center of the bomb-debris cloud, land for removal of monitoring and collection elements, undergo wash down for removal of surface contaminants, and take off for a last flight before deep water ditching.

At that time, conversations with flight controllers and other aircraft personnel indicated that the Wake-Eniwetok-Kwajalein LORAN chain was essential to test monitoring by the drones and other surveillance aircraft and very useful to the military planes flying daily to and from the Kwajalein and Hawaii control bases. From this and the absence of any direct commercial flight routes over or around Eniwetok, I became — and still remain — convinced that this LORAN chain had been established primarily at the request of DoD for the primary support of the Nuclear Test Facility, Eniwetok Atoll. I never was able to confirm that, however.

In April and May 1951, four tests occurred at the Eniwetok Nuclear Test Site. Each explosion occurred at the early dawn hour to take advantage of the optimum atmospheric conditions, primarily wind. Each bomb was placed atop a tower structure, reported to be about 150 feet in height. The opposite side of the atoll, a completely uninhabited island, was about 25 miles in a westerly direction from Eniwetok Island and the USCG LORAN Station. Natives from the atoll had been moved to a distant atoll in 1948 after DoD had selected Eniwetok as its weapons test facility. Prior to this, in 1946-47, there were underwater tests conducted at Bikini Island.

The GREENHOUSE series tested the atomic triggering device that was planned for later use on the hydrogen bombs then being developed. The LORAN signals had to be shut down with no electronic transmissions within the Eniwetok Atoll for five minutes before and three minutes after explosion time zero. This was done to ensure no erroneous or premature explosion due to random electronic signals in the atmosphere. The GREENHOUSE Task Force Commander was a very colorful individual. Gen. Pete Quesada was an Air Force fighter ace from the WWII European theater on his final duty assignment in the military.

During these test periods, all personnel on the atoll were issued dosimeter film badges which were later collected and examined in order to measure any radiation exposure occurring. No protective clothing was then deemed necessary, but special dark lens eye wear was issued. Personnel were allowed to be outside buildings, so we Coast Guardsmen lined up on the roadway near

our building. Instructions to all hands were to face away from the direction of the explosions and to remain so through the extremely bright flash of light indicating time zero. We were to remain so until we heard the noise of the explosion and felt the simultaneous shock wave emanating from the bomb device's unbelievable power.

Turning around, the sky remained brightly lighted even wearing the protective darkened glasses. In the early morning and explosion glow, the mushroom cloud continued to form, expand, and rise as an awesome sight above Bogallua Island, ground zero. It made all of us believers in the tremendous destructive force that man had wrought.

By mid-June 1951, the Nuclear Test Site had been reduced to a mere housekeeping and post-explosion monitoring facility. Flights from Kwajalein were reduced to semi-weekly after two months of two and three flights daily.

The Defense Nuclear Agency revealed that 51 Coast Guard personnel participated in Nuclear Testing at Eniwetok, OPERATION GREENHOUSE, in 1951. The 51 included 10 personnel at LORAN Station Eniwetok (see box above), and 41 on the CGC Planetree, a buoy tender assigned to service Aids to Navigation in the lagoon at Eniwetok Atoll.

My departure from Eniwetok came on Aug. 2, 1951, after a three-day transfer indoctrination with LTJG Clarence J. Pare, Jr. He was still somewhat stunned over the isolated assignment that was to keep him away from his family for most of the next year. Indeed, I was sympathetic as I parted knowing what he was about to face.

I must admit that some of my memories of events from 45 years ago are somewhat sketchy. Furthermore, Eniwetok residents were not permitted to have cameras or take photographs, draw sketching, or keep journals. Letters to family and friends, while not censored, were expected to be in accord with security clearances. Still, for the sake of the Coast Guard's historical record, I felt it necessary to document what for me was a highlight of my Coast Guard career.

**USCGLTS Eniwetok
1951 Crew
During Test Explosions**

LTJG J. Richard Hope
EN1 Doreston L. Carmen
ET1 Robert S. Dubois

ET1 Wilbur J. Hall, Jr.
ET2 Basil V. Burrell
ET2 Leo E. Flander
ET3 Jack Charles
ET3 Richard S. Condon
ET3 Fred R. Kovac
ET3 Robert E. Lee

First H-Bomb "Mike" detonated at Eniwetok

OPERATION GREENHOUSE, established to test H-bomb igniters, was manned by the U.S. Air Force, Task Force 6. The Atomic Energy Commission set up the tests. The program began in the spring of 1950 and was completed one year later. In all, 11 A-bomb igniters were lit and tested in 1950-53. A-bomb yields varied between 50K and 250K pounds of equivalent TNT explosive. On the Eniwetok Atoll island of Elugelab, the first true H-bomb was lit in the mid-50s. It was named "Mike." The detonation of Mike completely obliterated Elugelab, leaving an underwater crater a mile wide and 200-feet deep in the atoll where the island had once been. Mike created a fireball three miles wide; the "mushroom" cloud rose to 57,000 feet in 90 seconds, and topped out in five minutes at 135,000 feet — the top of the stratosphere — with a stem eight miles across. The cloud eventually spread to 1,000 miles wide, with a stem of 30 miles across. Eighty million tons of pulverized coral and soil were lifted into the air by the blast. With the prevailing westerly winds, most all the fallout was well to the east of Eniwetok into the vacant Pacific Ocean.

Map (included in printed article, will be included in this on-line version at a later date): This 1945 map shows LORAN stations in operation and under construction at that time. The red arrow gives the approximate location of Eniwetok Atoll. It is the northern most atoll in the Gilbert and Marshall Islands Group lying about 300 miles north of the equator. It is a coral mound and Eniwetok Island is two-miles long and 600 yards wide.



CAPT J. Richard Hope, 71, grew up in Kansas City Mo. and is a 1948 Coast Guard Academy graduate. Some of his other assignments beside LTS Eniwetok included CGC Taney, CGC Magnolia, CGC Casco, CGC Duane, Harvard Business School, XO of USCG Supply Center, Supply Officer CCGD3, and CO, ORPSU Moriches, Long Island, N.Y. He retired from the Coast Guard Reserve in 1973 and resides in Everett, Wash.