

Johnston Atoll

Kalama Atoll

On 31 July 2001 the U.S. Army Chemical Activity Pacific retired its colors on Johnston Island. The unit's deactivation marked an end to 30 years of storing and handling chemical weapons stockpiles, and participating in the destruction of those weapons since 1990. Johnston Island, 825 miles southwest of Hawaii, was the only site where soldiers were entirely responsible for the storage, security and transport of the deadly chemical agents. Department of Defense contractors run eight other sites throughout the United States.

The island, only 2½ miles long and a half-mile wide, was home to a military police company and chemical company, along with a headquarters unit. Every soldier assigned to the island during the 30 years chemicals were stored there received special training in handling and emergency responses to chemical agents. The unit safeguarded and disposed of deadly sarin and VX nerve agents and assisted the Johnston Atoll Chemical Disposal System, a contract civilian group assigned to destroy the chemical agents. The two units destroyed more than 400,000 rockets, bombs, projectiles, mortars and mines. Two thousand tons of nerve and blister agent were also destroyed. The last of the chemical stockpile was destroyed in November 2000. There were no incidents or accidents in the unit's 30-year history.

The last soldier left Johnston Island by ship on 17 August 2001, but some DOD contract civilians will remain. The Johnston Atoll Chemical Disposal System will continue to be dismantled and dispose of secondary hazardous waste from the chemical weapons destruction. That operation is scheduled to end in 2004.

Located 717 nautical miles southwest of Oahu, and 450 nm south of French Frigate Shoals in the Northwest Hawaiian Islands it is one of the most isolated atolls in the world. It rests on the core of an ancient volcanic island now buried under a limestone cap thousands of feet thick which resulted from 70 million years of reef growth on the slowly sinking island. Today, Johnston Atoll is a broad shallow platform of approximately 50 square miles with a marginal reef emergent only on the northwest. The atoll consists of four coral islands: Johnston Island, Sand Island, North Island, and East Island. At just over 625 acres, Johnston Island is the largest island and the base for all operations and management activities, including all personnel and community support functions. Johnston Island and Sand Island are natural islands, which have been expanded by coral dredging; North Island (Akau) and East Island (Hikina) are manmade islands formed from coral dredging. The four small islands of Johnston Atoll are home to over 200 species of fish, 32 species of coral, and 20 species of native and migratory birds.

There are about 960 civilian and 250 military personnel assigned to the island. The Johnston Atoll mission is to support the US Army chemical weapon storage and destruction program. Closed to the public, the atoll is an unincorporated territory of the US administered by the US Defense Threat Reduction Agency [formerly Defense Nuclear Agency (DNA)] and managed cooperatively by DNA and the Fish and Wildlife Service of the US Department of the Interior as part of the National Wildlife Refuge system. Johnston Atoll has also been used by the military

since the mid-1930s, serving as a refueling point for aircraft and submarines during World War II and as a base for airlift operations during the Korean War. It was also the site of several air atomic tests during the early 1960s.

Johnston Atoll is a military installation whose base operating support services are provided primarily by contractors. In addition to providing base support for the U.S. Army's chemical destruction operation, DSWA provides base support for the Army-Air Force Exchange Service, the US Fish and Wildlife Service, and various other contractors who support a variety of island functions. The Pacific Division, Naval Facilities Engineering Command, administers the base operating support contract for JA with Kalama Services. Having completed the transition process between August and December 1995, Kalama Services, a joint venture of Holmes & Narver Services Incorporated, SERCo Incorporated, and Burns & Roe Services, reached full performance on 1 January 1996. Kalama performs a full range of base operating support services to maintain the island infrastructure and community viability, such as fresh water and power production, housing, food service, fire protection, law enforcement, clinical health support, and recreational activities.

Johnston Atoll was accidentally discovered on September 2, 1796 by Captain Joseph Pierpont of the American Brig Sally. He published a notice of his ship's grounding in several American newspapers in 1797, giving an accurate position and noting the two original islands (Johnston and Sand) and the incomplete marginal reef. No traces or records of any earlier visitations or occupations by Polynesians or Europeans during their voyages of discovery exist. Lt. William Smith of HMS Cornwallis named the larger island for his ship's captain, Charles J. Johnston, after sighting it briefly on December 14, 1807.

The Guano Act of 1856 granted Americans the privilege of removing guano, the accumulation of sea bird excrement, from nearly 30 central Pacific islands claimed by the United States. For several years guano was removed from Johnston and Sand Islands before the operation was abandoned in the late 1800's. During the late 1800s, the Atoll was claimed by both the Kingdom of Hawaii and the United States. This claim was settled when Hawaii became a U.S. Territory.

In 1923 the Biological Survey of the U.S. Department of Agriculture and the Bishop Museum visited the islands with a scientific expedition to study the bird and marine life. Their findings resulted in Executive Order 4467 of President Calvin Coolidge designating the islands as a bird refuge. In 1934 by Executive Order 6935, Franklin D. Roosevelt placed the atoll under the Navy while retaining the earlier provisions for refuge designation and protection.

In 1934, Johnston Atoll was transferred to and managed by the U.S. Navy. Navy development began in earnest in 1936 with reef blasting, dredging, landfilling and grading and construction on the islands. The atoll was briefly shelled by Japanese naval units shortly after the Pearl Harbor attack but combat soon shifted west and the island's role changed from an outpost to an aircraft and submarine stopover and refueling base.

It was transferred again in 1948 to the Air Force. In the late 50's and early 60's a series of high altitude nuclear tests brought new activity and attention to Johnston atoll. A series of dredge and fill projects completed in 1964 brought the size of Johnston Island up to 625 acres from its

original 46, increased Sand Island from 10 to 22 acres, and added two manmade islands, North (Akau) and East (Hikina) of 25 and 18 acres.

The Air Force retained operational control of Johnston Atoll until 1962, with the exception of 4 months in 1958 when Joint Task Force 7 held operational control. From 1962 to 1963, Joint Task Force 8 and the Atomic Energy Commission jointly held operational control of Johnston Atoll for the purpose of conducting high-altitude atmospheric nuclear testing operations. Joint Task Force 8 retained operational control of Johnston Atoll from 1963 to 1970 as the Limited Test Ban Treaty came into force identifying Johnston Atoll as the principal overseas readiness-to-test base. In 1970, Johnston Atoll was again transferred to the Air Force. Host-management responsibility for Johnston Atoll was given by the Deputy Secretary of Defense in July 1973 to DSWA (formerly the Defense Nuclear Agency), which continues to perform that mission.

In 1963, the Congressionally mandated Safeguard C provision to the Limited Test Ban Treaty (and subsequent Nuclear Testing Treaties) formed the basis for maintaining Johnston Atoll as a readiness-to-test site should the resumption of atmospheric nuclear testing be deemed essential to our national security. In November 1993, Congress zero-funded the Johnston Atoll Safeguard C mission and defined the military mission as storage and destruction of chemical weapons.

In 1999, the host base management responsibilities for Johnston Atoll (JA) transferred from the Defense Threat Reduction Agency (DTRA) to the Air Force. The 15th Contracting Squadron at Hickam Air Force Base manages the tenants of Johnston Atoll. The US Army operates JACADS on the atoll as a tenant unit of the 15th Air Base Wing, Hickam Air Force Base, Hawaii.

Under direction from the Department of Defense at the time of the transfer, DTRA remains responsible for completing the plutonium cleanup project on the atoll, with a goal of achieving a safe level for humans and the environment. The atoll became contaminated with plutonium through two aborted missile launches during high altitude nuclear weapons testing conducted in 1962. On February 1, 2000, DTRA sent a letter to the Environmental Protection Agency (EPA), the U. S. Fish and Wildlife Service (USF&WS), and the Air Force, requesting their review and concurrence with DTRA's proposed standard of 40 picocuries per gram (pCi/g) of plutonium in the soil as a final radiological cleanup standard. The cleanup level for Enewetak Atoll, also in the Pacific, was 60 pCi/g for agricultural areas and 40 pCi/g for residential areas. The proposed cleanup level for Rocky Flats, which is near Denver CO, will be between 35 and 600 pCi/g.

Beginning in 1964 a series of large open-air biological weapon tests was conducted downwind of Johnston Atoll. The American strategic bioweapon tests involved a number of ships positioned around Johnston Atoll, upwind from a number of barges loaded with rhesus monkey test subjects which were exposed to agents dispensed from aircraft.

Chemical weapons have been stored on Johnston Island since 1971. The weapons stored at Johnston Island include rockets, projectiles, mines, mortars, and ton containers, containing both nerve and mustard agents. The chemical munitions stockpile stored at Johnston Atoll originated from four locations. The Army leased 41 acres in 1971 to store chemical weapons formerly held in Okinawa, which were transferred to the atoll from Okinawa during Operation Red Hat in 1971. In 1972, the Air Force moved Agent Orange stocks to Johnston Atoll [these stocks were

destroyed in 1977]. In November 1990, chemical weapon stocks from the Federal Republic of Germany were transferred to Johnston Atoll for destruction in Operation Steel Box. In 1991, range-recovered chemical munitions were brought from the Solomon Islands. Before destruction operations began in 1990, JACADS stored approximately 6.6% of the total US stockpile.

In 1981, the Army began planning for the Johnston Atoll Chemical Agent Disposal System (JACADS). Construction began in 1986. It is the world's first full-scale facility built to destroy chemical weapons. The design is based on technologies used for years by the Army and industry. Following completion of construction and facility characterization, JACADS began operational verification testing (OVT) in June 1990. From 1990 until 1993, the Army conducted four planned periods of Operational Verification Testing (OVT), required by Public Law 100-456. OVT was completed in March 1993, having demonstrated that the reverse assembly incineration technology was safe and that JACADS operations met all environmental parameters. The OVT process enabled the Army to gain critical insight into the factors that establish a safe and effective rate of destruction for all munition and agent types. Only after this critical testing period did the Army proceed with full-scale disposal operations at JACADS. Transition to full-scale operations started in May 1993. The facility actually did not begin full-scale operations until August 1993.

Approaching hurricanes in both 1993 and 1994 necessitated facility shutdown and the evacuation of more than 1,100 soldiers, Department of the Army civilians, and Army contractors from Johnston Island to Hawaii. During each of these instances, JACADS production was disrupted for a period of time. As a result of the hurricane striking Johnston Island in August 1994, JACADS production was disrupted for approximately 70 days. This time was required to repair damaged installation infrastructure needed to sustain the presence of the work force and to provide power and water supply critical to JACADS processing.

On 31 January 2000, the Ocean going tug "Sea Valiant" pulling a barge (the "Malalo") entered the waters of Johnston Atoll and docked at Johnston Island. After a short period of unloading construction materials, the crew of the tug began to load into the hold of the barge, projectile casings and One-Ton Containers from the main pier area. The operation, once started, ran continuously 24-hours a day, loading round after round onto the vessel, for the better part of the next 6 days, loading these former chemical warfare agent munitions and containers. The tug and barge departed fully loaded with over 400 tons (800,000 pounds) of metal bound for Japan on 6 February 2000. This was part of the final disposal operation to get the remains of what once was chemical munitions off the island. These metal hulls of what were once chemical munitions (or containers that stored chemical agent in the case of the One-Ton Containers), had all been processed through the Johnston Atoll Chemical Agent Disposal System (JACADS) facility and demilitarized to 5X level in the previous HD and GB campaigns. As a twist on the "Spear Points to Plow Point" saying, which could be modified in this case to say "from Chemical Munitions to Driving a Chemical Projectile" this scrap metal has been sold to Japan to be melted down and reformed to in all probability will become automobiles.

On 7 March 2000, the Chemical Ammunition Company (CAC) shipped the last VX filled M121A1 155 millimeter projectile from the "Red Hat" storage area to the Johnston Atoll Chemical Agent Disposal System (JACADS) facility. Which completed the shipment of all

42,682 projectile in 43 Load and Transport (L&T), missions over a 85 day period that started with the first L&T that was conducted on 17 December 1999. On 10 March 2000, The JACADS plant processed and thermally decontaminated the last 155-mm projectile casings through its Metal Parts Furnace (MPF). This event brought an end to the 155 VX Stockpile Campaign. JACADS beat their projected baseline completion schedule date of 27 March, by 17 days (which this time equals or translates into over \$6,000,000 in plant operational cost saved). Of the 42,682 projectiles, four that could not be processed due to mechanical processing problem with these rounds themselves, will be cut open and destroyed during a later campaign reserved for processing rejects like these.

The JACADS facility then began retooling its equipment and conducting changeover operations to proceed with the next munition campaign which will be the M426 8-inch VX filled projectiles. This retooling changeover was expected to take place through April 2000, followed by pre-operational checks of the operating system with inert training projectiles to validate the process, prior to the 8-inch campaign itself, beginning to process the stockpile projectiles in May 2000. The only two VX munitions types and bulk VX stored in One-Ton Containers remain on island are:

| Agent Type | Munition / Container Type | Number | Pounds of Agent |
|------------|---------------------------|--------|-----------------|
| VX-Nerve | M426 8-inch Projectiles | 14,519 | 210,520 |
| VX-Nerve | One-Ton Containers | 66 | 97,360 |
| VX-Nerve | M23 Land Mines | 13,302 | 139,680 |

These items were destroyed in the order as they are indicated above.

JACADS has already disposed of all of its stockpiled M55 nerve agent rockets, one-ton containers filled with mustard and GB nerve agent, one class of mustard-filled projectiles and nerve agent bombs. All rockets, projectiles, bombs and ton containers filled with GB have been safely destroyed at JACADS. This amounted to the disposal of approximately 74 percent of all chemical agent and munitions stored on the island. As of 08 October 2000 JACADS had destroyed 1,979 tons of an original 2,031 tons, with 52 tons remaining. When all of the munitions are destroyed, the facility will be dismantled. By 2003, the Army expects to depart the atoll. Once this occurs, the Air Force expects to return the atoll to the USF&WS to continue its national wildlife refuge operations.

Original stockpile consisted of the following:

| AGENT | ITEM | QUANTITY | POUNDS |
|------------|-------------------|----------|-----------|
| HD-Blister | 155mm Projectiles | 5,670 | 66,339.0 |
| HD-Blister | 105mm Projectiles | 46 | 136.6 |
| HD-Blister | M60 Projectiles | 45,108 | 133,970.7 |
| HD-Blister | 4.2 Mortars | 43,600 | 261,600.0 |
| HD-Blister | Ton Containers | 68 | 116,294.0 |
| GB-Nerve | M55 Rockets | 58,353 | 624,377.1 |
| GB-Nerve | 155mm Projectiles | 107,197 | 696,780.5 |
| GB-Nerve | 105mm Projectiles | 49,360 | 80,456.8 |
| GB-Nerve | 8" Projectiles | 13,020 | 188,790.0 |
| GB-Nerve | MC-1 Bombs | 3,047 | 670,340.0 |
| GB-Nerve | MK 94 Bombs | 2,570 | 277,560.0 |
| GB-Nerve | Ton Containers | 66 | 101,158.0 |
| VX-Nerve | M55 Rockets | 13,889 | 141,769.8 |

| | | | |
|----------|-------------------|--------|-----------|
| VX-Nerve | 155mm Projectiles | 42,682 | 256,092.0 |
| VX-Nerve | 8" Projectiles | 14,519 | 210,525.5 |
| VX-Nerve | Land Mines | 13,302 | 139,671.0 |
| VX-Nerve | Ton Containers | 66 | 97,360.0 |

