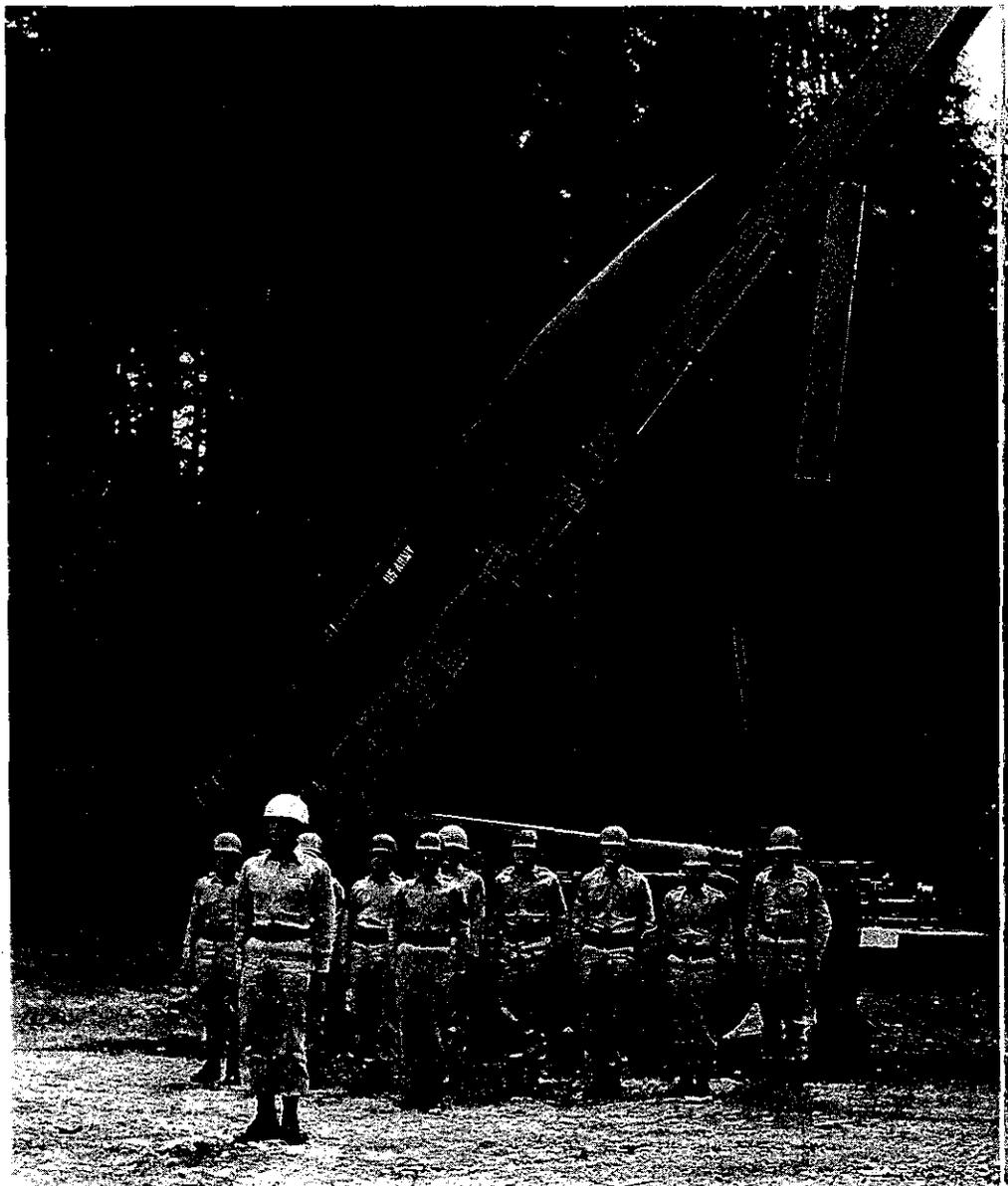


GIVEN THE ENORMOUS ATTENTION PAID to nuclear weapons, it may come as a surprise to most people that until now we have had only fragmentary information about where, when, and under what circumstances the United States deployed nuclear bombs overseas.

But now, an important historical document has been provided to the authors in response to a Freedom of Information Act request. The document, titled *History of the Custody and Deployment of Nuclear Weapons: July 1945 through September 1977*, is a lengthy narrative complete with charts and appendices that documents the growth of the U.S. nuclear arsenal.¹ It also includes what were—until now—some of the U.S. government's most closely guarded secrets: the deployment of nuclear weapons in such sensitive places as Japan, Greenland, Iceland, and Taiwan.

The entire document will be a valuable source of information for historians of the Cold War. Due to space constraints, however, we have limited the focus of this article to only one section, Appendix B, titled "Chronology Deployment by Country 1951–1977." Appendix B includes an alphabetical list of the localities where U.S. nuclear weapons were deployed, including the types of weapons systems deployed and their entry and withdrawal dates. [See "NRDC Nuclear Notebook," page 66.] After an extensive declassification review, the Pentagon provided the names of nine places where bombs were located—Alaska, Cuba, Guam, Hawaii, Johnston Island, Midway, Puerto Rico, Britain, and West Germany. The names of 18 other locations were

Robert S. Norris is a senior research analyst at the Natural Resources Defense Council in Washington, D.C. He is currently writing a biography of Gen. Leslie R. Groves. William M. Arkin is co-author of Nuclear Battlefields (1985), the first book to document the deployment of U.S. nuclear weapons overseas. William Burr is a senior analyst at the National Security Archive and director of the U.S. nuclear history documentation project.



Northern Italy, July 1957: Members of the 510th Rocket Battalion stand at attention in front of their "Honest John" missile while they wait for review by the president of Italy.

U.S. ARMY

Between 1945 and 1977, the United States based thousands of nuclear weapons abroad. The weapons' hosts did not always know they were there.



blacked out, but because the list is alphabetical it is not terribly difficult to identify them—with the exception of one mystery country listed between Canada and Cuba.

First deployments and the question of custody

Several earlier official histories have provided limited information about the circumstances under which the first U.S. nuclear bombs were deployed overseas.² The issue of foreign deployment is closely entwined with the issue of civilian versus military custody, another theme of the *History*.

On June 11, 1950, President Harry Truman authorized the movement to Britain of 89 sets of non-nuclear components—bomb casings or assemblies—to support Strategic Air Command (SAC) bomber units located there. (In Appendix B, these non-nuclear components are referred to as “non-nuclear bombs.”) The logic of the move was that pre-positioning the larger and heavier assemblies would make it easier and quicker to deliver complete bombs if war with the Soviet Union broke out. By the end of July these first non-nuclear components were in place.³

At the time, bomb design technolo-

gy required that the nuclear “capsule” (the plutonium and/or uranium core or pit) be kept separate from the non-nuclear assembly. Civilians from the Atomic Energy Commission (AEC) maintained physical custody of the capsules until the president authorized that they be turned over to the military. In the event of war, capsules were to be rushed to bases and onto bombers, where, after take off on the way to Soviet targets, they would be inserted into the assembly, making a complete bomb. Inexplicably, these first deployments are not listed in Appendix B.

The outbreak of the Korean War on June 25, 1950, accelerated overseas deployments. Some U.S. officials felt that the North Korean invasion was merely a diversion for a Soviet invasion of Western Europe. On July 1, Truman took another step toward wider dispersal and fuller military custody, authorizing some non-nuclear components to be deployed to Guam, and another 15 sets of non-nuclear components to be stored aboard the aircraft carrier *Coral Sea*, which was bound for the Mediterranean.⁴

During the transfer of non-nuclear components to Guam, a spectacular accident occurred that must have caused deep concern in Washington about the dispersal of the U.S. arsenal. On the evening of August 5, a B-29 from the 9th Bombardment Wing was carrying one of the non-nuclear assemblies bound for Andersen Air Force Base (via Hickam airbase, Hawaii). It crashed and burned five minutes after

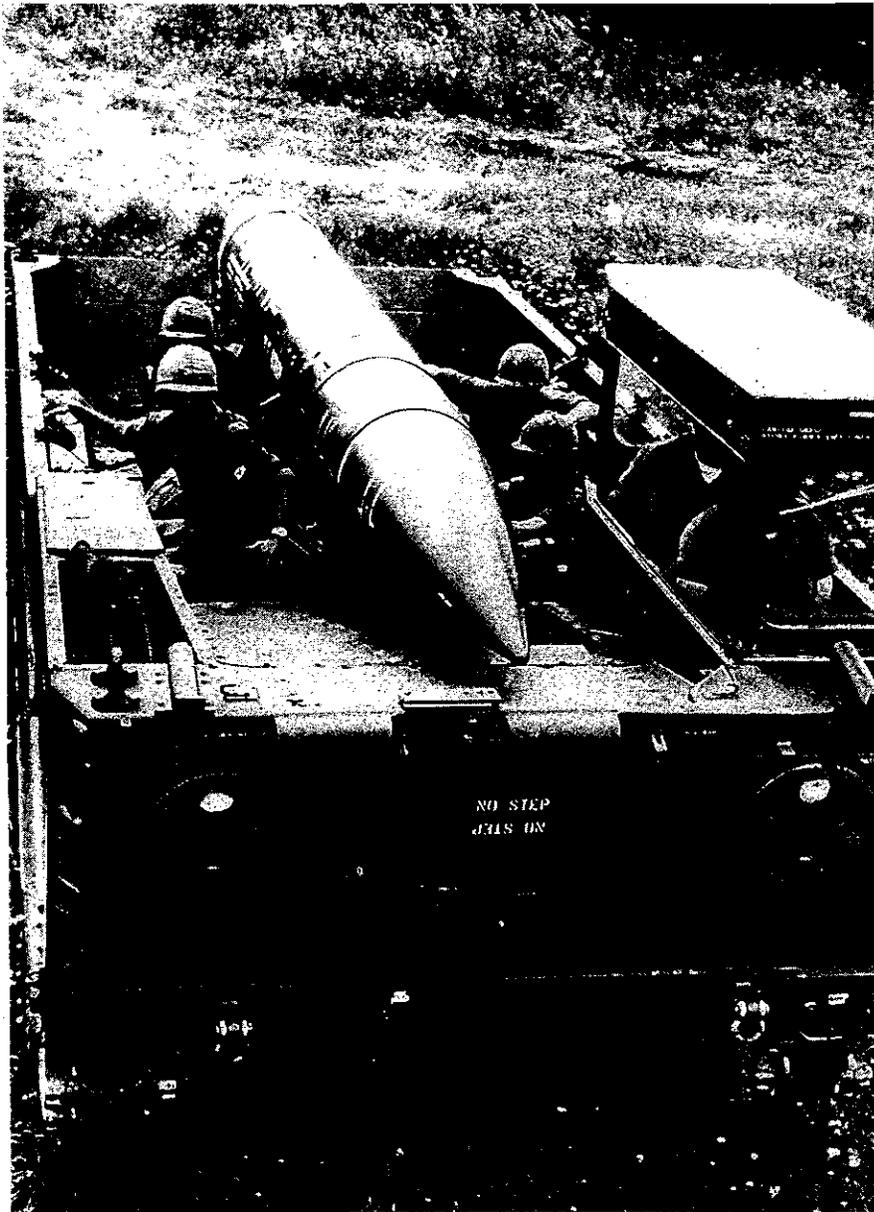
By Robert S Norris, William M. Arkin & William Burr

Where they were

gy required that the nuclear “capsule” (the plutonium and/or uranium core or pit) be kept separate from the non-nuclear assembly. Civilians from the Atomic Energy Commission (AEC) maintained physical custody of the

take off from Fairfield-Suisun (now Travis Air Force Base) in California. Twelve of the 20 crew and passengers on board were killed, including Brig. Gen. Robert F. Travis.

Forty-eight house trailers and 20 au-



U.S. ARMY

Heidelberg, Germany, 1976: U.S. Army soldiers prepare to fire a Lance missile.

As a frontline state in the Cold War,
Germany hosted by far the most nuclear
weapons, with 21 different types
deployed from 1955 to the present.

tomobiles were damaged or destroyed. Nineteen people were killed in all and 58 required hospitalization. According to the accident report, "Shortly after the crash trucks arrived in position beside the burning aircraft and began to extinguish the fire, the explosion occurred. All the fire fighting equipment and crews in place fighting the fire were disabled. Burning gasoline and wreckage from the explosion [were] strewn over an area of approximately two square miles."⁵ The explosion of nearly 5,000 pounds of high explosive was felt 30 miles away. Of course there was no mention at the time that a nuclear weapon was involved. The air force cover story was that 10 500-pound conventional bombs had exploded—apparently all at exactly the same time.

At the same time, another secret operation involved the transfer of non-nuclear components to Canada in July and August of 1950.⁶ SAC sought permission to move a number of Mark IV non-nuclear assemblies to Goose Bay, Labrador, as well as to deploy three bomber and two refueling squadrons to the north, closer to Soviet targets.

B-50A bombers from the 43rd Bombardment Wing based at Davis-Monthan Air Force Base, Arizona, stopped at Gray Air Force Base near the AEC's Killeen Base (Site Baker), one of three National Stockpile Sites where the nuclear weapons were stored at the time, to pick up bomb assemblies for delivery to "The Goose," as SAC called the base.⁷ The first of these arrived on August 26.⁸ Fifteen assemblies were stored in the woods about four miles from the airfield where 43 bombers were deployed. Canadian Prime Minister Louis St. Laurent granted permission for a six-week deployment period. Very few members of the Canadian government knew of this arrangement.

When the time was up, the bombers returned to Davis-Monthan in September, but the assemblies remained until November. While transporting one of the Mark IVs back to the United States on November 10, a B-50 bomber experienced trouble over

Canadian territory. First one engine failed and then a second began to backfire. With little hope of reaching a U.S. base, standard procedure called for the bomb assembly to be jettisoned over water. Fuzes were set to detonate at an altitude of 2,500 feet and the bomb was dropped in the middle of the 12-mile wide St. Lawrence River, not far from Rivière du Loup, Quebec.

The explosion of the Mark IV's nearly 5,000 pounds of chemical high explosive frightened residents and rattled windows up and down the river. The air force used a cover story to explain the blast—the facts did not emerge until four decades later.⁹

A growing presence in the real nuclear club

The first overseas movement of nuclear components—capsules—came in 1951. President Truman authorized the transfer of nuclear capsules to Guam on April 6, 1951, after Chinese forces launched a major offensive in Korea. He designated air force Chief of Staff Gen. Hoyt S. Vandenberg, acting as executive agent of the Joint Chiefs of Staff, as his personal representative to take custody of the weapons. Nine nuclear capsules arrived in Guam in late June.¹⁰

In January 1952, President Truman authorized the storage of non-nuclear components at three SAC bases—Ben Guerir, Nouasseur, and Sidi Slimane—in French Morocco, where U.S. B-36 and B-47 bombers were located. The French government was not informed of the move. Appendix B shows that non-nuclear components actually arrived in July 1953 and were there for 12 years.

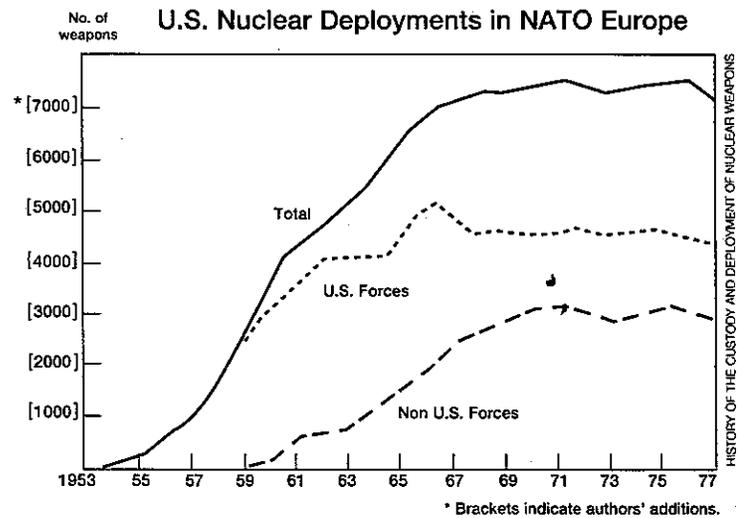
The president granted authority to deploy complete weapons to Britain and Morocco in April 1954, and storage of both nuclear and non-nuclear components was authorized in June. In May 1954, complete nuclear bombs were deployed in Morocco, and in September 1954, in Britain. It is worth noting that contrary to most scholars' assumptions, complete nuclear weapons were deployed in Morocco before they were deployed in Britain. Autho-

rization was also given for the deployment of non-nuclear components to France, and these were deployed in August 1958.

In the late 1950s, weaponeers began designing bombs that incorporated the fissile core (or capsule) inside the bomb casing, thus making the bombs all one piece. These were called "wooden bombs" or "sealed pit" weapons. The military had by then taken greater, but still not complete, control of the arsenal. Nevertheless, the *History* reveals that the AEC continued to make some types of bombs with removable capsules for quite some time. Having a supply of bombs with removable capsules was no doubt politically advantageous—it accommodated the sensitivities of allies France and Japan. The last non-nuclear components were withdrawn from Alaska and Okinawa in June 1967, from Canada in June 1971, and from Guam in 1978.

Deployments to Europe

Appendix B provides precise information about the introduction of U.S. nuclear weapons into eight NATO countries between 1954 and 1963. Various types of fission and fusion bombs and other nuclear weapons were introduced in Britain in September 1954; West Germany, March 1955; Italy, April 1957; France, August 1958; Turkey, February 1959; Netherlands, April 1960; Greece, October 1960; and Belgium, November 1963.



As a frontline state in the Cold War, Germany hosted by far the most nuclear weapons, with 21 different types of U.S. warheads having been deployed on its soil from 1955 to the present.¹¹ When NATO's nuclear weapons peaked at more than 7,000, Germany stored approximately half of them. Guam, an American territory in the Pacific, had 20 types deployed, but the numbers were far fewer than in Germany. The Japanese island of Okinawa hosted 19 different types of nuclear

SEE APPENDIX B, PAGE 66.

weapons during the period 1954–72, but at no time were more than about 1,000 warheads deployed there.

The *History* provides charts indicating the numbers of nuclear weapons in various categories. Although the figures on the vertical axis—the "number of nuclear weapons"—are blacked out, enough supplementary information exists to provide reasonable estimates of what the numbers on the axis are and thus to determine what the numbers were over time. As indicated in the chart above, weapons began to be introduced in NATO in 1955, and rose to almost 3,000 by 1960. This number doubled to 6,000 by 1965. The number of U.S. nuclear weapons in NATO Europe peaked in 1971 at approximately 7,300.

To give European NATO members a greater role in nuclear policy and planning, in the late 1950s the United

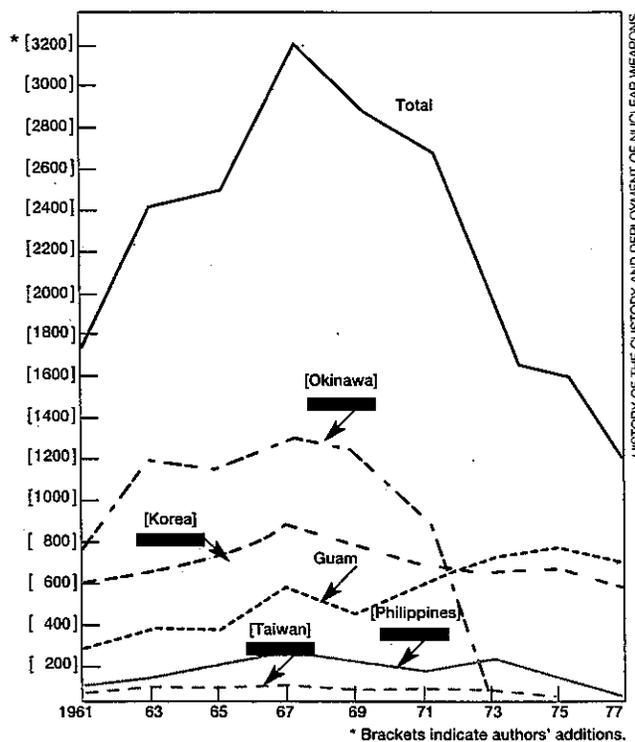
States began to establish mechanisms to provide non-U.S. NATO forces with nuclear weapons and delivery systems. Later known as Programs of Cooperation (POCs), a series of presidentially approved agreements authorized the Defense Department to provide nuclear weapons training, support, and certification to foreign nations and delivery units. Although the U.S. military would supposedly keep the bombs and warheads in special areas under tight control, initial arrangements under President Dwight D. Eisenhower were amazingly lax. West German Luftwaffe fighter-bomber pilots, for example, had virtual control of the bombs when on alert. To tighten up control of nuclear weapons in Europe, President John F. Kennedy instituted the use of permissive action links (locking mechanisms).

From the 1960s to the early 1970s, roughly 35 to 40 percent of all nuclear weapons deployed in Europe were reserved for non-U.S. NATO forces. The POCs, of course, continue to this day. We estimate that roughly half of the 150 nuclear weapons currently deployed in Europe are allocated to six NATO countries: Belgium, Germany, Greece, Italy, the Netherlands, and Turkey.

Deployments to the Pacific

Despite the Korean War, the overseas U.S. nuclear presence in the Pacific remained relatively modest throughout most of the Truman administration.¹² In mid-1952, however, the Joint Chiefs proposed that Truman authorize additional deployments of non-nuclear components to other bases under U.S. control—in Alaska, Guam, Hawaii, and Okinawa. Deployment of nuclear and non-nuclear components to “forward areas” was considered essential for war-fighting if hostilities were to break out. Military leaders believed

No. of weapons
Pacific Deployments On Shore



that a communication breakdown might make emergency transfers difficult, if not impossible.

Deployment of complete weapons and components coincided with the U.S.-China crisis over the Taiwan straits in 1954–55. The Eisenhower administration, worried that Chinese forces might attack the offshore islands of Quemoy and Matsu or even Taiwan itself, made nuclear threats and developed contingency plans for the use of nuclear weapons against China. Complete nuclear weapons were deployed to Okinawa in December 1954. That same month, the nuclear-armed aircraft carrier *U.S.S. Midway* deployed to Taiwanese waters.¹³

In an extraordinary development, in December 1954 the Eisenhower administration approved the transfer of non-nuclear components to U.S. bases in Japan. Japan would be used for nuclear operations against China or the Soviet Union in the event of war.¹⁴ The *History* reveals that non-nuclear components remained in Japan until June 1965. The U.S. government has never acknowledged their presence given the sensitivity of the issue in U.S.-

Japan relations.¹⁵

A wide variety of nuclear weapons and delivery systems began arriving in the Pacific region starting in 1956. Army, air force, and navy nuclear weapons were deployed to Guam, Okinawa, and Hawaii. From 1957 to 1958, South Korea, Taiwan, and the Philippines became new locations for President Eisenhower's nuclear weapons dispersal policy. Beginning in January 1958, U.S. nuclear-armed Matador cruise missiles were deployed on Taiwan, less than 200 miles from mainland China. Also, in early 1958, the United States deployed atomic artillery, Honest John missiles, bombs, and atomic demolition munitions to South Korea. Matador missiles were also sent to South Korea, a development that

the compilers of the *History* mistakenly overlooked.

At the end of the Eisenhower administration, U.S. nuclear deployments on shore in the Pacific—at Okinawa, Guam, the Philippines, Korea, and Taiwan (but not Hawaii)—totaled approximately 1,700 weapons. There were about a dozen weapons on Taiwan, 60 in the Philippines, 225 on Guam, and 600 in Korea. The lion's share—nearly 800 weapons—were located at Kadena airbase, Okinawa, the location of SAC's strategic bombers.

New dispersals to the Pacific region began with the Kennedy administration. By the beginning of 1963, on-shore deployments—to Guam, Okinawa, the Philippines, and Taiwan—grew to about 2,400, a 66 percent increase from 1961 levels. The on-shore stockpile in the Pacific peaked in mid-1967 at about 3,200 weapons, 2,600 of which were in Korea and Okinawa.

Several unusual deployments, which have yet to be fully explained, took place in the Pacific during the mid-1960s. From 1963 to 1966, the army stationed a Nike Zeus anti-ballistic missile system with W50 nuclear war-

heads on Kwajalein Atoll in the Marshall Islands. Also, from 1964 to 1971, nuclear-armed Thor intermediate-range ballistic missiles were deployed on Johnston Island in support of "Program 437," an anti-satellite system based on the island.

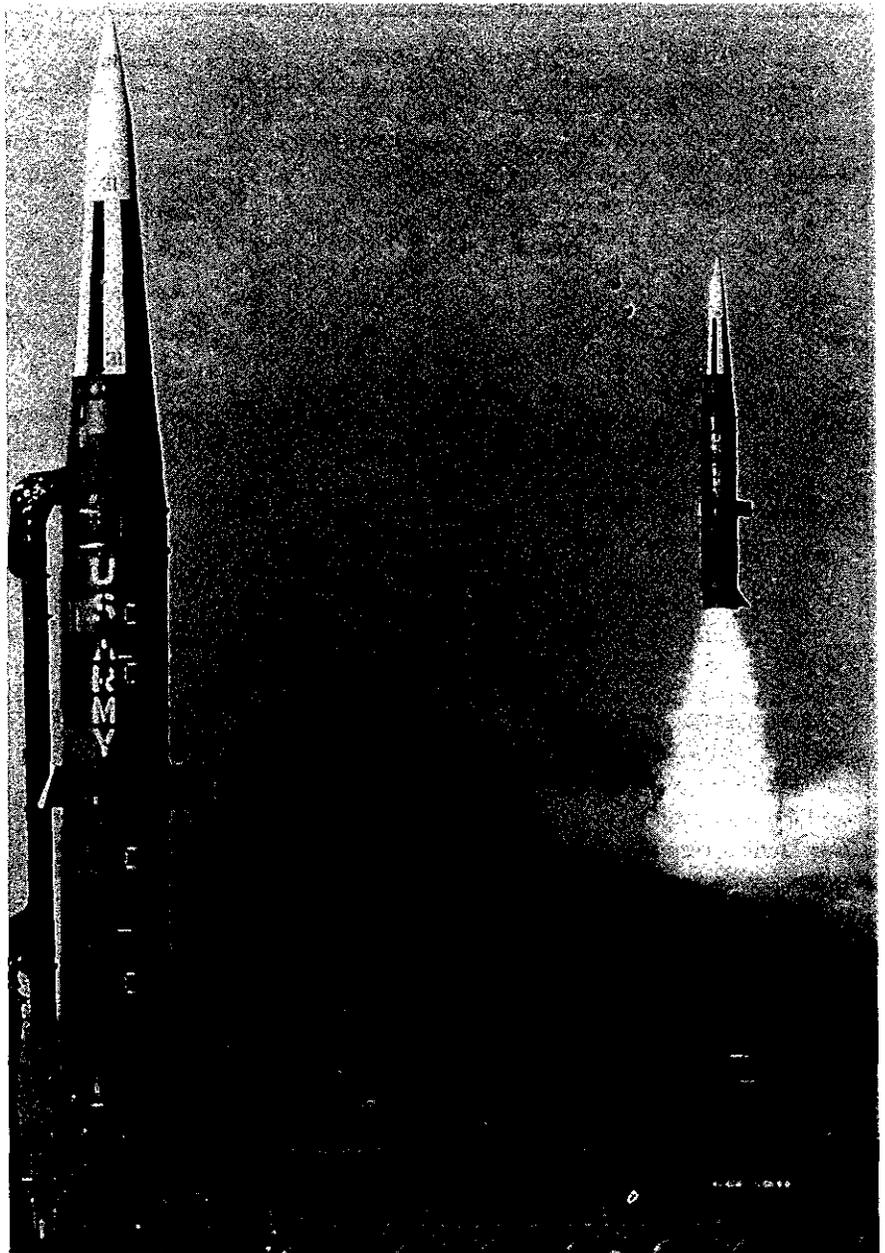
Beginning in 1967, Pacific on-shore deployments began to decrease. By the end of the Nixon administration in 1974, the total was cut to half of peak levels—from 3,200 to 1,600. By 1977 it had fallen to about 1,200 warheads. Politically sensitive warheads were withdrawn from Japan, and the Philippines was denuclearized, virtually in secret. SAC reduced its presence in the Pacific and U.S. warheads were withdrawn from Okinawa soon after it reverted to Japan in 1972. By the end of the 1970s, only South Korea remained a forward base for U.S. nuclear weapons. (The last weapons were withdrawn from Korea in 1991.)

Sensitive areas

The *History* adds details about several politically sensitive nuclear weapons deployments and withdrawals, notably those in Japan, Greenland, Iceland, and Taiwan.

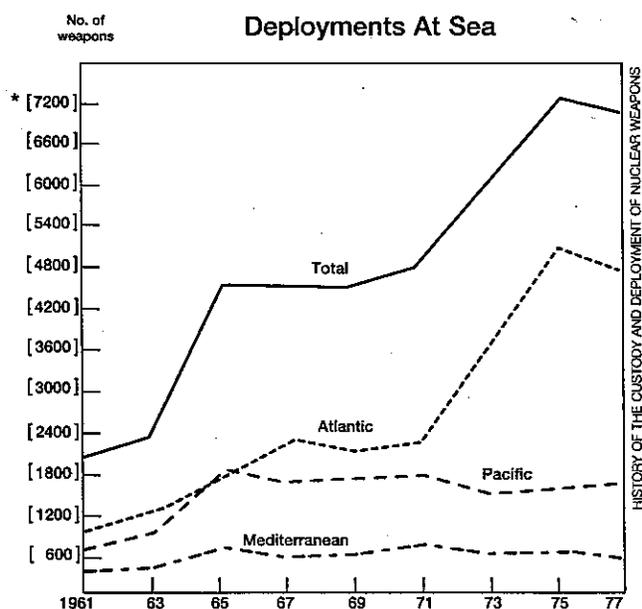
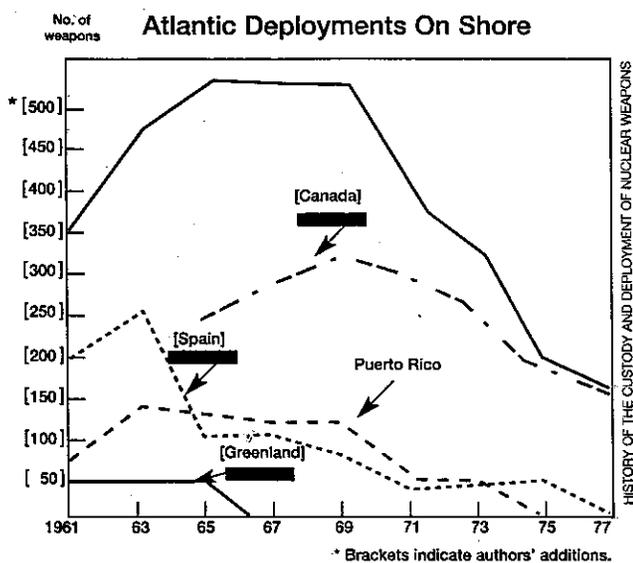
Japan. The United States removed non-nuclear bomb components from Japan in mid-1965, more than a decade after their initial deployment. The precise circumstances of the withdrawal remain classified. During the late 1950s, the Pentagon had hoped to cure the Japanese of their "nuclear allergy" so that they would accept ongoing nuclear weapons storage on their territory. But by 1965, Pentagon officials apparently decided that the allergy was too difficult to cure. In any event, U.S. bombers and warships continued to use bases and port facilities in Japan for routine transit of nuclear weapons, which was permitted in a secret codicil of the 1960 U.S.-Japan Security Treaty.¹⁶

Greenland and Denmark. Japan was not the only nation that required special handling in the deployment of nuclear weapons. Denmark had a policy of no nuclear weapon deployments within its borders. Its declaratory poli-



The first simultaneous launch of two Pershing missiles in 1967.

The bombs and warheads were supposed to be under tight control, but initial arrangements under President Eisenhower were amazingly lax.



cy also covered Greenland, a Danish colony, though it was assumed in the 1960s that American bombers armed with nuclear weapons routinely flew over Denmark's Arctic possession. In 1994, Danish researchers uncovered important new information that demonstrated the overflights had indeed occurred.¹⁷

This information, which was published in the Danish press, was a source of great embarrassment for the governments of both countries and forced them to negotiate over how to deal with the situation. On June 29, 1995, the Danish government delivered a four-page history to the Danish parliament. In it, the government admitted that nuclear-armed planes had flown over Greenland, but concluded that the United States had acted in good faith. Top Secret discussions in 1957 had produced an official gloss: Washington asked Copenhagen if it wanted to be informed in advance if nuclear weapons were deployed. The Danish response was exact yet non-committal; the question would never be asked. Don't ask, don't tell. In 1968, however, a B-52 bomber crashed on the Greenland icecap with four nuclear bombs aboard. Non-nuclear pledges were made explicit thereafter. (These pledges did not, however, cover port visits by nuclear-armed ships, which



The gigantic Mk36, deployed in Greenland.

both sides continued to ignore.)

The crisis caused by the Danish researchers was raised to a new level after a July 1995 press conference with Danish foreign minister Niels Helveg Petersen and then-U.S. Defense Secretary William Perry, who was coincidentally on an official visit to Denmark when the Danish government's report was published. Petersen said that despite the overflights he had been assured that nuclear weapons had never been deployed on the ground. But 10 days later, there was another bombshell. Perry delivered a secret letter informing the Danish government that in fact nuclear weapons had been stored on the ground, including army air defense warheads for Nike Hercules surface-to-air missiles. Although the U.S. government asked the Danes

to keep the information secret, Petersen decided to go public with it. A commission was formed, inquiries made, dusty archives opened, and a comprehensive report published.

According to Perry's secret letter, four nuclear bombs were stored at Thule Air Base in Greenland in 1958.¹⁸ Given this, there is no doubt that the deleted entry in Appendix B for the

country between Cuba and Guam is Greenland. That entry reads: "Bomb, Entry Feb 58, Withdrawn Oct-Dec 58." From other official sources we also know that the 11th Aviation Depot Squadron was at Thule from January 15 to December 1 of the same year, an excellent fit for this nuclear custodial unit.¹⁹ Hans M. Kristensen, the Danish researcher who first brought this story to light in Denmark, has received additional official documents confirming that the four bombs were Mark 36 Mod 1s. The Mk 36 was a huge thermonuclear bomb weighing 17,500 pounds. It had a yield of 9-10 megatons and was in the stockpile from 1956 to 1962. The documents name Thule and also state that non-nuclear components for 15 Mark 6 bombs were also there, a fact not noted in Ap-

DECLASSIFICATION CAN BE AN INSCRUTABLE PROCESS. Evidence of this is the decision by the Office of the Secretary of Defense (OSD) to delete references to Greenland—and several other nuclear weapons deployment locations—in the declassified version of the *History of the Custody and Deployment of Nuclear Weapons*.

According to the OSD, the deletions were necessary because the information could “reasonably be expected” to damage U.S. national security or harm relations with other countries.

At first glance, the claim seems reasonable. The *History* contains information about several sensitive deployment locations for U.S. nuclear weapons during the Cold War. But much of the deleted information—particularly the references to Greenland—has already been revealed in other declassified documents. Over the last five years extensive details about the deployment of U.S. nuclear weapons to Greenland in the late 1950s and 1960s have become available. The deletion

complete list of SAC’s nuclear weapons deployments in 1958. The SAC history identifies 15 bases in seven locations around the world—including Thule Air Base—where nuclear weapons were deployed. The SAC history also discloses the specific types of nuclear weapons stored at each base and provides the first complete list of nuclear weapons deployments during the early phases of the Cold War.

The “Thulegate” disclosures in Denmark and the air force’s historical documents reveal so many details about the deployment of U.S. nuclear weapons in Greenland that it is difficult to understand why the OSD blacked out this location in the *History*. The contradiction between the air force’s willingness to release information about Greenland and the OSD’s unwillingness is particularly striking given that both departments are supposed to be implementing the same law. But, as air force officials explained to me, every department reviews documents differently, and it is eventually up to the individual who processes the request to determine

Secrecy on a sliding scale

of references to Greenland in the *History* is out of tune with recent events and serves no apparent purpose.

In 1993 and 1994, declassified air force records made it possible for the first time to document that U.S. nuclear-armed bombers routinely flew over Greenland during the 1960s. Following this disclosure, the Danish government received additional information from the United States about the deployment of nuclear weapons on the ground. This information revealed that from 1958 to 1965 the United States kept nuclear weapons at Thule Air Base in Greenland.

It was a major political scandal in Denmark when the government released this information to the public. The scandal eventually resulted in the establishment of a semi-independent investigation. Despite its limitations, the investigation produced a wealth of information about the deployment of nuclear weapons at Thule Air Base. The whole affair, which the Danes nicknamed “Thulegate,” lasted about four years.

In July, only one month after the *History* was released, the air force released large portions of the Strategic Air Command’s (SAC) 1958 history, including a

what should or should not be released.

I believe the air force made the correct decision. After more than 30 years, every reasonable national security interest served by withholding references to Greenland’s nuclear history had evaporated. The OSD also should have given priority to increasing the public’s knowledge of the history of nuclear weapons deployments. Instead, it gave in to obsolescent and impulsive secrecy. At a deeper level, the deletions raise questions about the justifications government agencies use to withhold information under the Freedom of Information Act.

The Clinton administration has on numerous occasions issued “new” guidelines intended to encourage the release of information. But the excessive deletions in the *History* indicate that we still have far to go.

—Hans M. Kristensen

Hans M. Kristensen, an associate with the Nautilus Institute in Berkeley, California, has researched nuclear policy for more than 15 years. He was a member of the 1997 Danish Defense Commission.

pendix B.

Denmark has had one of the more searching and fuller investigations of its nuclear history, but much remains incomplete. In general there is a lot

more nuclear history to be discovered, especially in cases where a nation’s non-nuclear policies were abrogated or where a blind eye was turned to accommodate its superpower partner.

Iceland. Iceland is another “non-nuclear” country whose nuclear history remains incomplete. In Appendix B, Iceland is clearly the first blacked out country listed after Hawaii and before



U.S. scientists show off a relatively small weapon, an "atomic demolition munition" or "ADM."

Johnston Island. Non-nuclear components were stored at the American base at Keflavik for a decade, from February 1956 to June 1966, and complete nuclear bombs were deployed there from September 1956 to September-December 1959.

This is a significant new revelation. Iceland, like Denmark, has a strong non-nuclear tradition and, at least publicly, opposed many of the nuclear aspects and policies of the NATO alliance. There is further supporting evidence for nuclear weapons deployments to Iceland in an official volume describing U.S. Air Force bases overseas.²⁰ It states that major changes in operational capability at Keflavik included, "SAC transient aircraft accommodated, 1955-1956 . . . and elimination of SAC (tenant) activities occurred in 1959-1960." This is a perfect fit for the presence of the bombs as described in Appendix B.

Taiwan. When told that there were once two types of U.S. nuclear weapons deployed on Taiwan, most Americans are surprised. Matador cruise missiles were first deployed on Taiwan in January 1958; they were removed in mid-1962. The second type were nuclear bombs, which were stockpiled at Tainan air base. The U.S. Air Force had been rotating nuclear-capable F-100 fighter-bombers through Taiwan

since 1958, so the bombs were undoubtedly deployed to facilitate access in a crisis. During the 1960s, the air force deployed F-4 fighter-bombers on Taiwan, later putting two to four of them on 24-hour quick-reaction alert.²¹ The fighter-bombers and their weapons were also assigned strike missions under the U.S. nuclear war plan known as the Single Integrated Operational Plan.

It is clear that Washington withdrew its nuclear weapons from Taiwan in the 1970s to improve relations with Beijing. During or not long after his visit to China, President Richard Nixon made a commitment to remove nuclear weapons from Taiwan.²² As a symbol of the new relationship, immediately after Nixon's visit, the secretary of defense ordered a reduction in the number of bombs on Taiwan and instituted physical security measures such as permissive action links.

Because Taiwan was an ally from early in the Cold War days and a catalyst for important domestic political support, Nixon's pledge might have caused problems if it were widely known. The strategic and policy implications of removing weapons from Taiwan generated a cabinet-level review. The *History* reproduces the text of a memorandum that Secretary of State William Rogers and Defense Secretary

Melvin Laird presented to Nixon in November 1972.

The Rogers-Laird memo is heavily excised but the essence of it was that the loss of Taiwan as a storage facility did not represent a major foreign policy problem. The loss was inconvenient, however, because it represented a "contraction of forward storage options." But the strikes against the mainland that had been assigned to fighter-bombers could be delivered by B-52s or submarine-launched ballistic missiles (SLBMs). Indeed, a year earlier, National Security Adviser Henry Kissinger had said that special studies demonstrated that with bombers and Poseidon SLBMs alone "the U.S. will be able to pre-empt [China] for perhaps the next 10 to 15 years."²³

Rogers and Laird, however, were concerned that Taiwanese Nationalists might try to seize the weapons out of desperation. Thus, when the Nixon administration followed up on its pledge to Beijing and removed the last bombs in July 1974, Defense Secretary James Schlesinger ordered the removal of the bombs before the F-4s. Concerned that the Nationalists might do something rash if the aircraft were removed before the bombs, Schlesinger observed that "we should not offer the [Nationalists] a temptation or opportunity."²⁴

Secrets to the end

Why the Pentagon provided the names of some deployment locations but withheld others is somewhat of a mystery. Why, for example, did it acknowledge that nuclear weapons were deployed in Germany and refuse to acknowledge that they were in Italy or Korea?

The probable answer is that these countries—including those where weapons were withdrawn years ago—still control the declassification and dissemination of information regarding nuclear deployments on their soil. The process of declassifying the *History* was time consuming and complex. It clearly went through many departments and agencies and may have, within the State Department,

gone to the bureau and desk level, and perhaps even to embassies abroad, to decide which details could be released without embarrassing foreign governments.²⁵

The political history of the deployment of nuclear weapons is even less well known than their military history and it remains an important but virtually unwritten chapter of the Cold War. The presence of nuclear weapons often interfered with and/or created problems for the conduct of U.S. foreign policy. This was especially the case when weapons were deployed under special circumstances—the most special being those in which the

host country did not know if they were there, where they were, or how many there were.

The deployment story is not over. In April 1999, NATO declared in its newest "Strategic Concept" that its nuclear forces consisted of "dual-capable aircraft and a small number of United Kingdom Trident warheads." The nuclear parts of the dual-capable aircraft are B61 bombs, which remain at 10 air bases in seven European countries. They are officially unacknowledged and remain shrouded in secrecy. These warheads are the last nuclear weapons of the five major powers to be deployed outside their borders, despite

NATO's statement that it has terminated "standing peacetime nuclear contingency plans" and that its "nuclear forces no longer target any country."²⁶

Nuclear weapons and deployments now play a relatively marginal part in U.S. military strategy, but the great secrecy associated with deployments, even when they have long been overtaken by events, shows that nuclear weapons remain highly sensitive in international politics. This document pierces only part of the heavy veil of nuclear secrecy. It may take decades before the full story of U.S. nuclear deployments is told. In other words, there is a lot more history to be discovered. ■

1. The *History* was prepared by the Office of the Assistant to the Secretary of Defense (Atomic Energy) and is dated February 1978. One of the authors first requested it in 1985 and received a 182-page version, heavily redacted. In 1994 an appeal was submitted to the Pentagon for a more careful line by line, word by word, review. This lengthy process has resulted in the current 332-page version, 150 pages longer. In response to the first request the Pentagon chose not to supply a 36-page bibliography and nine appendices totaling 114 pages, an action clearly against the regulations of the FOIA. Portions of the document are on the National Security Archive Web site and the full document is available in the Office of the Secretary of Defense's FOIA Reading Room, Room 2C757, the Pentagon.

2. Doris M. Condit, *The Test of War, 1950–1953*, vol. II, *History of the Office of the Secretary of Defense* (Washington, D.C.: Office of the Secretary of Defense, 1988), pp. 463–467; L. Wainstein et al., *The Evolution of U.S. Strategic Command and Control and Warning, 1945–1972* (Arlington, Va.: Institute for Defense Analysis, June 1975).

3. Wainstein et al., *Evolution*, p. 31.

4. The logic of declassifiers is sometimes a mystery. While the *History* deletes the fact about the *Coral Sea*, it was published in Wainstein et al., *Evolution*, p. 31; and in Condit, *The Test of War*, p. 463.

5. Air Force Safety Agency, Accident Report, August 1950.

6. A diligent Canadian researcher got to the bottom of this story; John Clearwater, *Canadian Nuclear Weapons, The Untold Story* (Toronto: University of Toronto Press, 1998).

7. The other two were Manzano Base at Kirtland Air Force Base, New Mexico (Site Able), and Clarksville Base at Fort Campbell, Kentucky (Site Charlie).

8. We would like to thank Michael S. Binder for this information about the 43rd Bomb Wing.

9. Ed Offley, "The Day a Nuclear Bomb Fell on Canada," *Seattle Post-Intelligencer*, October 30, 1990.

10. Guam, a U.S. territory about three times the size of Washington, D.C., is located 3,700 miles west-southwest of Honolulu. From 1950 to the

1980s it had about 20 types of nuclear weapons. Andersen Air Force Base, located 13 miles northeast of Agana, was an important SAC base for almost 40 years. The 3rd Aviation Field Depot Squadron arrived at the end of May 1951 to assume responsibility for the bombs. Presumably the original deployment a year earlier was to include ten assemblies. After the crash on August 5, 1950, only nine were delivered. These capsules were possibly for the nine assemblies.

11. There were also British nuclear weapons deployed in Germany from the early 1970s until March 1998. Previously the Royal Air Force used U.S. weapons.

12. Roger Dingman, "Atomic Diplomacy During the Korean War," in Sean M. Lynn-Jones et al., *Nuclear Diplomacy and Crisis Management* (Cambridge, Mass.: MIT Press, 1990), pp. 127, 139–40; William Stueck, *The Korean War: An International History* (Princeton, N.J.: Princeton University Press, 1995), p. 67. For SAC on Guam, see Peter Hayes et al., *American Lake, Nuclear Peril in the Pacific* (New York: Penguin Books, 1986), p. 85.

13. For nuclear threats and planning during the first Taiwan threats crisis, see essays by Gordon Chang and H.W. Brands, in Lynn-Jones, *Nuclear Diplomacy*.

14. For Japan as a nuclear base, see Hayes et al., *American Lake*, p. 76. Hayes and his colleagues correctly inferred that components, not complete weapons, were stored in Japan.

15. The initial deployment was first declassified by the Defense Department in 1992. See Institute for Defense Analyses, *The Evolution of U.S. Strategic Command and Control and Warning, 1945–72*, p. 3, reproduced in William Burr, ed., *U.S. Nuclear History: Nuclear Weapons and Politics, 1955–58, A National Security Archive Special Collection* (Alexandria, Va.: National Security Archive/Chadwyck-Healey, 1998).

16. For details on the 1960 treaty, see Robert J. Watson, *History of the Office of the Secretary of Defense*, vol. IV, *Into the Missile Age, 1956–60* (Washington, D.C.: Historical Office, Office of the Secretary of Defense, 1997), pp. 637–638.

17. By researchers Hans Kristensen and Thorsten Olesen.

18. *Greenland During the Cold War: Danish*

and American Security Policy, 1945–68 (Copenhagen: Danish Institute of International Affairs, 1997), p. 18.

19. Harry R. Fletcher, *Air Force Bases*, vol. II, *Air Bases Outside the United States of America* (Washington, D.C.: Center for Air Force History, 1993), p. 185.

20. *Ibid.*, p. 69.

21. Fighter-bombers went on "strip alert" in 1969 to protect U.S. reconnaissance aircraft operating in the South China area. See State Department cable 87660 to Embassy Taipei, May 29, 1969, Record Group 59, subject-numeric files, DEF 15 Chinat.

22. For the pledge, without any information on its timing, see Kissinger memorandum for the President, "Our Future Relationship with the People's Republic of China," n.d. [circa August–September 1974], National Archives, Record Group 59, Department of State Records, Policy Planning Staff Director's Files, 1969–1977, box 381, President's China T.ip.

23. General Haig to the President's Files, August 10, 1971, Nixon Presidential Materials, President's Office File, box 85, beginning August 8, 1971. According to Kissinger, Minuteman missiles were not useful against China because they would have to fly over Soviet territory.

24. Memorandum of conversation, "Call by Ambassador Unger," April 12, 1974, Record Group 84, Top Secret Foreign Service Post Files, Embassy Taipei, 1959–1977, box 1, file DEF 15-9 Reductions-ROC-1974.

25. An additional reason may have to do with worries about Defense Department liability and lawsuits from foreign nationals claiming health problems from exposure to radiation or other matters.

26. Nuclear contingency plans no doubt still exist. They may include plans to disperse nuclear warheads to additional bases, to place warheads in countries which do not now host nuclear weapons, to fly in more planes, to "recover" strategic bombers and submarines in foreign locations during alerts and operations, to overfly foreign airspace with nuclear weapons, and even to put Tomahawk nuclear cruise missiles back on surface ships and submarines if circumstances warranted.