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[Home Page](#)[About Us](#)[Subscriptions](#)[Back Issues](#)[Nuclear Notebook](#)[BulletinWire News](#)[In Spanish](#)[All About The Clock](#)**NRDC NUCLEAR NOTEBOOK****U.S. nuclear weapons in Europe, 1954-2004**

More than a decade after the dissolution of the Soviet Union, only the United States continues to deploy land-based nuclear weapons outside its borders. Defense and NATO officials have yet to outline the purpose or the targets of the weapons, but new documents obtained under the Freedom of Information Act and other sources shed some light on the composition of still-deployed nuclear weapons, as well as the reductions that have taken place.

After reviewing both new and old evidence we have concluded that there are more than three times as many bombs in Europe as was previously thought. We estimate that approximately 480 bombs are housed at eight bases in six European nations. Three types of bombs are deployed: B61-3, B61-4, and B61-10.

The United States first deployed nuclear weapons to Europe in September 1954, when it delivered gravity bombs to bases in Britain. During the next decade, weapons went to Germany, Italy, France, Turkey, Netherlands, Greece, and Belgium. In total, the United States deployed 24 different weapons systems to Europe. Germany hosted the most diverse force--21 of the 24 systems. In 1971 the number of U.S. nuclear warheads based in Europe peaked at approximately 7,300. By the late 1970s, this number had dropped to about 6,000. After the United States withdrew several obsolete systems in the 1980s and the Pershing II and ground-launched cruise missile (GLCM) systems as a result of the Intermediate-Range Nuclear Forces (INF) Treaty, the level declined to about 4,000.

A historic event took place on September 27, 1991 when President George H. W. Bush announced the withdrawal of all U.S. tactical ground-launched and naval tactical nuclear weapons worldwide. The withdrawal included tactical weapons based in Europe, and all nuclear artillery shells, short-range missile warheads, and naval nuclear depth bombs. What remained were about 1,400 gravity bombs in seven European countries. As the Soviet Union dissolved and hundreds of targets were removed from war plans, the United States cut the number of bombs for U.S. and NATO nuclear-capable aircraft to 700. In 1994, as a result of a Nuclear Posture Review, President Bill Clinton further cut this number to 480.

In the mid-1990s rumors circulated about further cuts in the number of U.S. bombs in Europe, but a re-examination of available evidence indicates that additional cuts were not made. Instead, the Defense Department changed alert levels and consolidated some deployed weapons, moving them to main operating bases. In one of his last acts as president, in November 2000 Bill

Clinton signed Presidential Decision Directive/NSC-74, which authorized 480 nuclear bombs to remain deployed in Europe. To the best of our knowledge, this level has stayed constant throughout President George W. Bush's first term (see "[U.S. B61 Bombs in Europe, 2004](#)").

The WS3 program

One way to track European deployments is by closely following the Weapon Storage and Security System (WS3) program, the method by which B61 nuclear bombs are stored in underground vaults inside aircraft shelters.

A 1976 Sandia National Laboratories study to determine the best way to safeguard U.S. Air Force nuclear weapons deployed abroad led to the establishment of the WS3 program. Air force officials eventually decided to store the weapons in sturdy vaults that would descend beneath the floor of specially built hardened hangars.

Officials originally envisioned building WS3 systems at all foreign bases where U.S. Air Force nuclear weapons were deployed. In 1986, plans called for a total of 437 vaults, with a maximum capacity of 1,748 weapons, to be built at 26 locations in nine countries, including South Korea. Air force documents specify that up to four weapons can be housed in each vault.

Two vaults were to be built at each of the six bases where GLCMs were to be deployed, and it is possible that spare warheads were to be stored in the vaults. The signing of the INF Treaty in 1987 obviated the need for these vaults, and they were never built.

The United States later built vaults for British bombs at two bases in Europe--10 at the Royal Air Force (RAF) base in Brüggen, Germany, and 24 at the base in Marham, Britain. The RAF later ended its nuclear mission, retired its WE177 bombs, and deactivated the vaults. As a result of the dissolution of the Soviet Union, the INF Treaty, and other factors, the air force scaled back considerably the number of vaults to be built as part of the WS3 program. Excluding British bases, the air force built 215 vaults at 13 sites in seven countries. With the completion of the vaults at Incirlik Airbase, in Turkey, in April 1998, the WS3 program was capable of accommodating up to 860 weapons. Since 1995, the Defense Department has closed one base containing 11 vaults and removed nuclear weapons from three other bases, leaving 23 vaults presumably in caretaker status. Greece has also ended its nuclear role in NATO, adding six vaults to the list in caretaker status.

Burden sharing unravelling?

European countries have long contributed to NATO's common defense by "burden sharing," which has included allowing U.S. nuclear weapons to be based within their borders.

At first, eight nations agreed to host U.S. nuclear weapons, but France's withdrawal from NATO's integrated military command left seven. As the public debate about European deployments raged during the 1970s and 1980s, there were occasional murmurings that the United States would completely remove its

weapons from one country or another. Fearing a domino effect, the United States typically squelched dissent and pressured its allies to uphold their original agreements even after the main rationale for the deployments had changed.

This trend has shown signs of changing. Twenty B61 bombs were airlifted out of Araxos Airbase in the spring of 2001, and the U.S. custodial unit, the 731st Munitions Support Squadron, was stood down on June 20, 2001, ending more than 40 years of U.S. nuclear weapons deployment to Greece. With no fanfare or apparent dispute, Greece gave up its last nuclear responsibility.

The reasons for the Greek withdrawal are unknown. Greece may have decided that continuing to fund the nuclear mission, with no clear danger to the East, was not worth the cost. There are some indications that other allies may follow suit. The United States withdrew nuclear weapons from some bases in Germany, Italy, and Turkey in the mid-1990s, but instead of removing the weapons from those countries, they were consolidated to larger bases where the weapons are earmarked for use by the host nation.

U.S. B61 bombs in Europe, 2004

Location	Delivery aircraft	WS3 storage vaults			Number			
		No.	Capacity	Completed	U.S.	Host		
Belgium	Kleine Brogel Airbase	Belgian F-16A/B	11	44	April 1992	0	20	20
Germany	Büchel Airbase	German PA-200 Tornados	11	44	Aug. 1990	0	20	20
	Memmingen Airbase		11	44	Oct. 1990	0	0	-
	Nörvenich Airbase	Tornados	11	44	June 1991	0	0	-
	Ramstein Airbase	US F-16C/D	55	220	Jan. 1992	90	40*	130
Greece	Araxos Airbase	Greek A-7	6	24	Sept. 1997	0	0	-
Italy	Aviano Airbase	US F-16C/D	18	72	Jan. 1996	50	0	50
	Ghedi Torre Airbase	Italian PA-200 Tornados	11	44	Jan. 1997	0	40	40
Netherlands	Volkel Airbase	Dutch F-16A/B	11	44	Sept. 1991	0	20	20

Turkey	Akinci Airbase	Turkish F-16	6	24 Oct. 1997	0	0	-
	Balikesir Airbase		6	24 Sept. 1997	0	0	-
	Incirlik Airbase	US F- 16C/D	25	100 April 1998	50	40	91
Britain	RAF Lakenheath	US F- 15E	33	132 Nov. 1994	110	0	-
Total			215	860	300	180**	68

Notes: Memmingen Airbase is closed. Nörvenich, Araxos, Akinci, and Balikesir airbases are in caretaker status. One vault at Ramstein is a training vault. *Half of these weapons may have been returned to the United States after Memmingen closed in 2003. **These totals assume that the 20 bombs from Araxos have been moved to Ramstein or possibly Aviano. Alternatively, the weapons may have been returned to the United States.

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