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Reawakening a Nuclear Legacy

The Potential Return of the US Nuclear Mission
to RAF Lakenheath

| ELIANA JOHNS & HANS KRISTENSEN

About FAS

The **Federation of American Scientists (FAS)** is an independent, nonpartisan think tank that brings together members of the science and policy communities to collaborate on mitigating global catastrophic threats. Founded in November 1945 as the Federation of Atomic Scientists by scientists who built the first atomic bombs during the Manhattan Project, FAS is devoted to the belief that scientists, engineers, and other technically trained people have the ethical obligation to ensure that the technological fruits of their intellect and labor are applied to the benefit of humankind. In 1946, FAS rebranded as the Federation of American Scientists to broaden its focus to prevent global catastrophes.

Since its founding, FAS has served as an influential source of information and rigorous, evidence-based analysis of issues related to national security. Specifically, FAS works to reduce the spread and number of nuclear weapons, prevent nuclear and radiological terrorism, promote high standards for the safety and security of nuclear energy, illuminate government secrecy practices, and prevent the use of biological and chemical weapons.

The **Nuclear Information Project** provides the public with reliable information about the status and trends of the nuclear weapons arsenals of the world's nuclear-armed countries. The project, which according to the Washington Post is "one of the most widely sourced agencies for nuclear warhead counts," uses open sources such as official documents, testimonies, previously undisclosed information obtained through the Freedom of Information Act, as well as independent analysis of commercial satellite imagery as the basis for developing the best available unclassified estimates of the status and trends of nuclear weapons worldwide. The project also conducts analysis of the role of nuclear weapons and provides recommendations for responsibly reducing the numbers and role of nuclear weapons.

The research is mainly published on the FAS Strategic Security Blog, in the Nuclear Notebook in the Bulletin of the Atomic Scientists, the World Nuclear Forces overview in the SIPRI Yearbook, as well as in magazines. As a primary source for reliable information on nuclear weapons, the project is a frequent advisor to governments, parliamentarians, the news media, institutes, and non-governmental organizations.

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Introduction

In the spring of 2022, researchers at the Federation of American Scientists began reading newly released U.S. Defense Department budget documents to look for updates concerning the Pentagon's priorities for the next fiscal year. As the researchers poured over hundreds of pages, two words suddenly captured their attention: the Biden administration's Fiscal Year (FY) 2023 budget request had added "the UK" to a list of countries receiving upgrades to their "special weapons" storage sites under a 13-year NATO investment program. The term "special weapons" is often used by the U.S. government when referring to nuclear weapons. However, the United States has not deployed nuclear weapons in the United Kingdom for nearly two decades. Those two words sparked dozens of questions, years of continued research, and a new local movement of protests against the return of a potential nuclear mission to RAF Lakenheath.

History

Cold War

The nuclear role of Royal Air Force (RAF) Lakenheath, located in Suffolk, England, began in the late 1940s when control of RAF Lakenheath was transferred to United States Air Force Europe (USAFE) as part of the United States' larger efforts to secure its allies in Western Europe and deter aggression by the Soviet Union. In response to the Soviet blockade of Berlin – one of the first major geopolitical crises of the Cold War – the United States in 1948 deployed B-29s to bases in the United Kingdom, including RAF Lakenheath.¹ The following year, "silverplate" B-29 bombers that were capable of carrying nuclear weapons but armed with conventional munitions were sent to Lakenheath from the 509th Bombardment Group – the group that dropped nuclear weapons on Hiroshima and Nagasaki.²

From the late 1940s to the early 1950s, the United States and the United Kingdom discussed the possibility of sharing access to American nuclear weapons. The British, for their part, were vulnerable to an attack by the Soviet Union and sought a role in U.S. nuclear planning in the case of a nuclear conflict with the Soviet Union.³ For the United States, the United Kingdom was considered a critical location from which nuclear power could be directed against the Soviet Union.⁴ As tensions with Russia grew and war on the Korean peninsula became imminent, the U.S. presence at RAF Lakenheath began to increase until the United States' Strategic Air Command (SAC) eventually assumed control of the base in 1951.⁵ Various heavy bomber and fighter bomber units were assigned temporarily to Lakenheath as part of SAC's Reflex Action program, which deployed bombers to various European bases on a rotating basis.⁶ As part of

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- 1 William Butler, "History of Bombers in Europe," United States European Command, n.d., <https://www.eucom.mil/about-the-command/history-of-useucom/history-of-bombers-in-europe>; Roger Dingman, "Atomic Diplomacy during the Korean War," *International Security*, Vol. 13, No. 3 (Winter, 1988-1989), pp. 54-58, <https://www.jstor.org/stable/2538736>.
 - 2 Ken Young, "US 'Atomic Capability' and the British Forward Bases in the Early Cold War," *Journal of Contemporary History*, Vol. 42, No. 1 (January 2007), p. 135, <https://www.jstor.org/stable/30036432>; Walton Moody, *Building a Strategic Air Force* (Air Force History and Museums Program, 1996), pp. 225, 273, https://media.defense.gov/2010/Sep/24/2001329773/-1/-1/0/building_a_strategic_af.pdf.
 - 3 S.J. Ball, "Military Nuclear Relations between the United States and Great Britain under the Terms of the McMahon Act, 1946-1958," *The Historical Journal*, Vol. 38, No. 2 (Jun., 1995), p. 440, <https://www.jstor.org/stable/2639991>.
 - 4 Ibid, p. 440.
 - 5 48th Fighter Wing History Office, "The History, Heritage, and Heraldry of the 48th Fighter Wing," 2 October 2015, p. 15, <https://www.lakenheath.af.mil/Portals/8/documents/AFD-151006-007.pdf>.
 - 6 U.S. Strategic Air Command, History Study #129, "The SAC Alert System 1956-1970," 19 September 1973, accessed via the National Security Archive, <https://nsarchive.gwu.edu/document/21074-doc-1-thesacalertsystm1956-197>.

Reflex Action, nuclear-capable B-47s were based at RAF Lakenheath from 1953 until 1956.⁷ The first nuclear weapons in Europe were deployed to bases in Britain, including RAF Lakenheath, in September 1954.⁸

With nuclear weapons deployed at Lakenheath, it was only a matter of time before they became involved in accidents. In 1956, a B-47 bomber crashed into a storage facility containing Mark-6 nuclear weapons, resulting in the death of the four crew members.⁹ While the fissile cores were stored separately from the weapons themselves, each contained an estimated 5,000 pounds of high explosives and depleted uranium components that could have dispersed radioactive material if ignited.¹⁰ Five years later, an F-100D fighter loaded with a Mark-28 hydrogen bomb caught fire after the plane's underwing fuel tanks were mistakenly jettisoned. The tanks ruptured and the fuel ignited, engulfing the bomb beneath the plane in flames. The fire was extinguished before the explosives could detonate.¹¹

The nuclear role of RAF Lakenheath expanded when French President Charles de Gaulle in 1960 ordered the removal of all nuclear-capable NATO forces from France. This included the 48th Tactical Fighter Wing (TFW) that was moved from Chaumont-Semoutiers Air Base to RAF Lakenheath.¹² The 48th Fighter Wing was equipped with F-100D Super Sabre nuclear-capable fighter aircraft (the same type of aircraft involved in the 1961 incident at Lakenheath) in four squadrons, two of which were assigned a nuclear role: the 492nd and the 494th.¹³ Between 1971 and 1974, the 48th TFW converted to the F-4D Phantom II and eventually to the F-111F Aardvark nuclear-capable bombers in 1977.¹⁴ The arrival of the F-111F aircraft brought the most significant construction on the base since its expansion after the arrival of the 48th TFW, including 60 hardened aircraft shelters along with other command and alert facilities.¹⁵

Up until the 1990s, nuclear weapons stored at Lakenheath were kept in igloos in a double-fenced weapons storage area (WSA) in the northwestern section of the base. To better safeguard U.S. weapons deployed overseas, a program to develop a weapon storage and security system (WS3) was initiated in the 1970s, and full-scale production and deployment of the vault system began in 1988.¹⁶ The vault of the WS3 could store a maximum of four weapons at a time and is recessed into the floors of protective aircraft shelters (PAS). In 1986, plans were laid out to build 48 WS3 at Lakenheath, providing a maximum capacity for 192 weapons. Ultimately, only 33 PAS were upgraded to include the WS3 vaults, which provided a storage capacity for up to 132 weapons. While some of the nuclear bases in Europe have a mix of two different PAS sizes, RAF Lakenheath has only the larger shelters measuring 37.5 x 23 meters.¹⁷ The vaults at Lakenheath became fully operational in November 1994.¹⁸ Since then, the former WSA has been converted to non-nuclear operations.

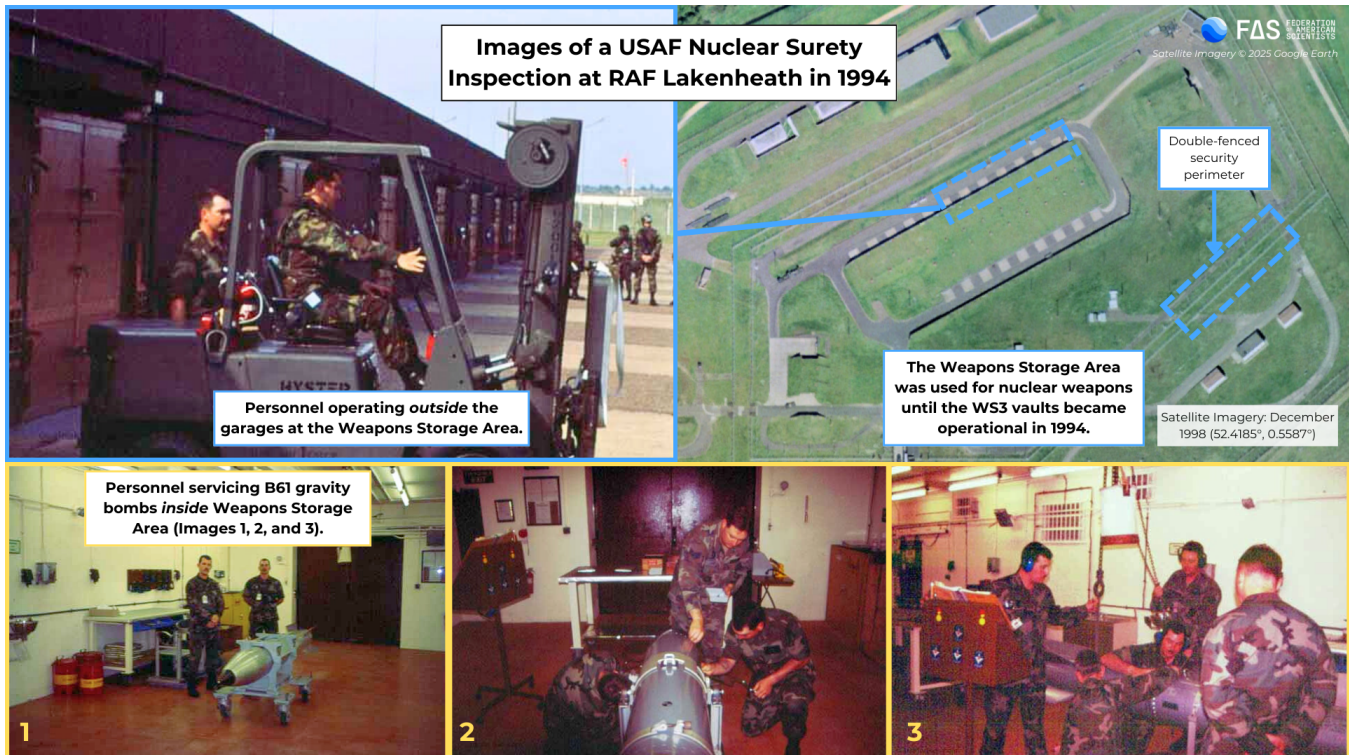
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- 7 Shaun Gregory and Alistair Edwards, "The Hidden Cost of Deterrence: Nuclear Weapons Accidents 1950-88," *Bulletin of Peace Proposals*, Vol. 20, No. 1 (March 1989), p. 12, <https://www-jstor-org.proxy.library.georgetown.edu/stable/44481410?seq=10> ; 48th Fighter Wing, "The History," p. 15.
 - 8 R. S. Norris, W. M. Arkin, and W. Burr, "Where They Were," *Bulletin of the Atomic Scientists*, Vol. 55, No.6 (November 1999), pp. 26-35, <https://journals.sagepub.com/doi/full/10.2968/055006011>.
 - 9 U.S. Department of Energy, "CG-HR-4 Historical Records Declassification Guide," p. 144, accessed via The Government Attic, https://www.governmentattic.org/39docs/DOEHistRecsDeclassGuide_2012.pdf ; Peter Burt, "Playing with Fire: Nuclear Weapons Incidents and Accidents in the United Kingdom," *Nuclear Information Service*, February 2017, p. 99, <https://www.nuclearinfo.org/wp-content/uploads/2020/09/playing-with-fire-report-FINAL.pdf> ; Kurt Wayne Schake, "Strategic Frontier: American Bomber Bases Overseas, 1950-1960," Norwegian University of Science and Technology, January 1998, p. 137, <https://apps.dtic.mil/sti/tr/pdf/ADA353633.pdf>.
 - 10 U.S. Department of Energy, "CG-HR-4 Historical Records," p. 144. ; Burt, "Playing with Fire," p. 99.
 - 11 Eric Schlosser, *Command and Control: Nuclear Weapons, the Damascus Accident, and the Illusion of Safety* (New York, New York: Penguin Books, August 2014), p. 262.
 - 12 48th Fighter Wing, "The History," p. 5.
 - 13 Hans M. Kristensen, "U.S. Nuclear Weapons in Europe: A Review of Post-Cold War Policy, Force Levels, and War Planning," *Natural Resources Defense Council*, February 2005, p. 67, <https://www.nukestrat.com/pubs/EuroBombs.pdf>.
 - 14 48th Fighter Wing, "The History," p. 6 ; William Burr, "Consultation is Presidential Business: Secret Understandings on the Use of Nuclear Weapons, 1950-1974," *National Security Archive Electronic Briefing Book No. 159*, accessed via the National Security Archive, <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB159/index.htm> ; Air Force Association, "Air Force Almanac, 1981," *Air Force Magazine*, May 1981, pp. 111, 144, https://www.airandspaceforces.com/app/uploads/2024/09/AFmag_1981_05.pdf.
 - 15 48th Fighter Wing, "The History," p. 15.
 - 16 Kristensen, "U.S. Nuclear Weapons in Europe," p. 14.
 - 17 Ibid, p. 16.
 - 18 Ibid, pp. 75, 86.



THIS PICTURE OF A NUCLEAR-CAPABLE F-15E INSIDE A PROTECTIVE AIRCRAFT SHELTER AT RAF LAKENHEATH IN 2015 SHOWS THE GRAY OUTLINE OF THE LID OF THE WS3 UNDERGROUND NUCLEAR WEAPONS STORAGE VAULT. THERE WERE NO NUCLEAR BOMBS AT LAKENHEATH IN 2015. IMAGE CREDIT: U.S. AIR FORCE.



THE US AIR FORCE CHIEF OF STAFF, GENERAL C.Q. BROWN, WITH THE 48TH MAINTENANCE GROUP WEAPONS LOAD TEAM IN FRONT OF AN F-35A INSIDE A NEWLY RENOVATED AIRCRAFT SHELTER AT RAF LAKENHEATH IN 2022. THE FLOOR MARKINGS INDICATE THE PRESENCE OF A WS3 UNDERGROUND NUCLEAR WEAPONS STORAGE VAULT TO THE LEFT OUTSIDE THE IMAGE FRAME.



BEFORE THE CURRENT SYSTEM OF WS3 UNDERGROUND VAULTS, NUCLEAR WEAPONS WERE STORED IN THE WEAPONS STORAGE AREA. THESE IMAGES SHOW A NUCLEAR WEAPONS INSPECTION IN 1994 WITH GEOLOCATION OUTSIDE THE NUCLEAR WEAPONS MAGAZINE. ANNOTATIONS: FEDERATION OF AMERICAN SCIENTISTS.

1990s – Today

The end of the Cold War brought about significant changes to the postures and force structures of nuclear-armed states. The United States conducted major Base Realignment and Closure (BRAC) activities from 1993 to 1995 that restructured U.S. forces in Europe and resulted in a significant reduction to the number of nuclear weapons in Europe. While nuclear weapons were still deployed at host country bases, the U.S. Air Force (USAF) consolidated its nuclear operations to four main bases: RAF Lakenheath in England, Ramstein Air Base in Germany, Incirlik Air Base in Türkiye, and Aviano Air Base in Italy.¹⁹ (See US Air Force Nuclear Storage Sites in Europe from 1985 to Present figure on the following page)

The U.S. reduction of its nonstrategic nuclear arsenal in Europe coincided with the United Kingdom eliminating its own nonstrategic nuclear weapons.²⁰ Following the lead of the unilateral Presidential Nuclear Initiatives in 1991 and 1992 that withdrew most U.S. and Russian nuclear weapons from Western Europe, the United Kingdom retired its naval nonstrategic nuclear weapons and withdrew its last air-delivered gravity bombs from Europe.²¹ By 1998, all

¹⁹ Ibid, p. 46.

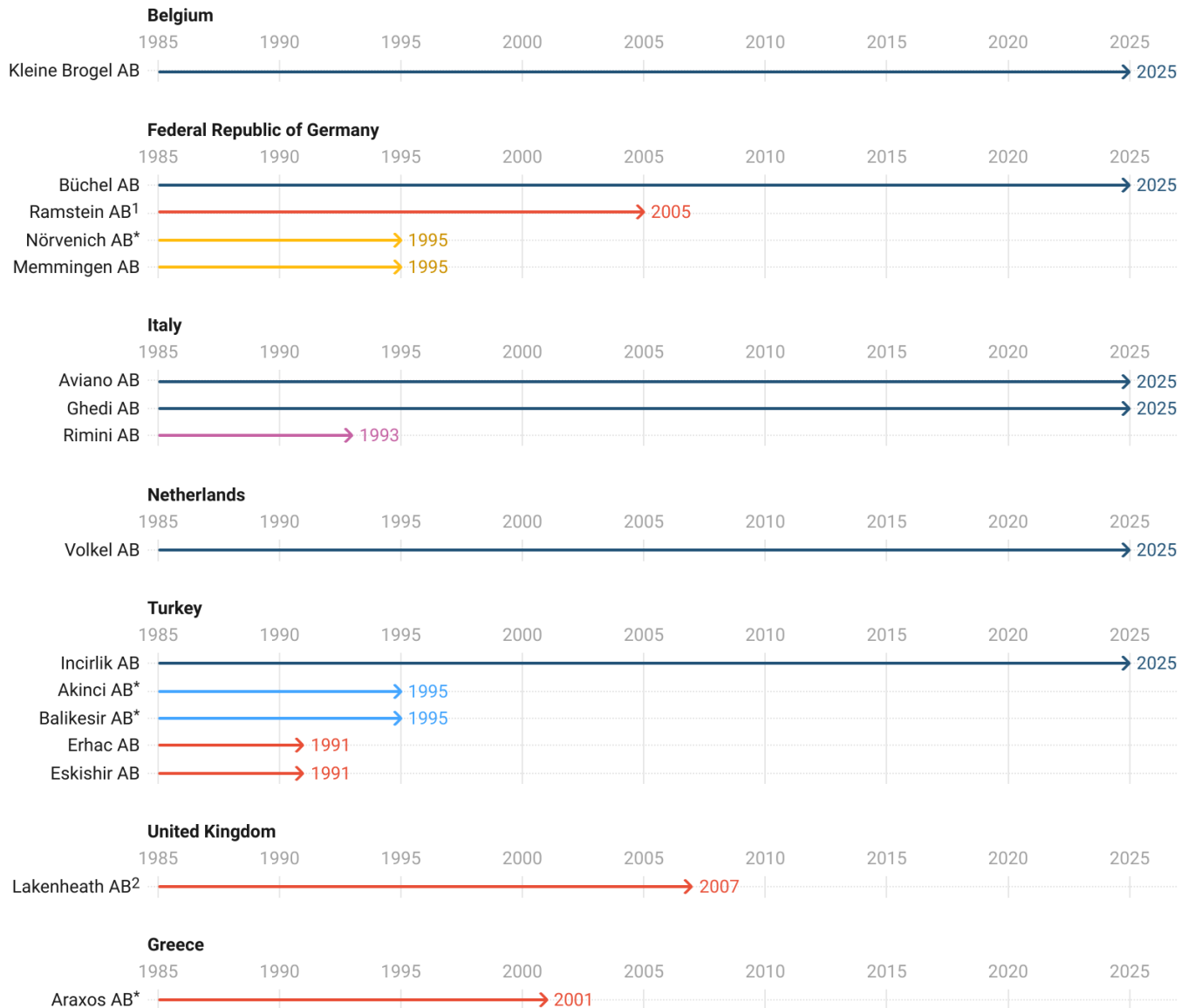
²⁰ Hans M. Kristensen, Matt Korda, Eliana Johns, and Mackenzie Knight, "United Kingdom Nuclear Weapons, 2024," Bulletin of the Atomic Scientists, Vol. 80, No. 6 (November 2024), p. 395, <https://www.tandfonline.com/doi/full/10.1080/00963402.2024.2420550> ; United Kingdom Ministry of Defence, "Strategic Defence Review: Modern Forces for the Modern World," July 1998, p. 26, https://web.archive.nationalarchives.gov.uk/ukgwa/20121018172816/http://www.mod.uk/NR/rdonlyres/65F3D7AC-4340-4119-93A2-20825848E50E/0/sdr1998_complete.pdf#page=26.

²¹ Kristensen, "U.S. Nuclear Weapons in Europe," p. 47.

US Air Force Nuclear Storage Sites in Europe from 1985 to Present

In 1985, 16 air bases across seven NATO member states hosted over one thousand US nuclear weapons. Over time, these weapons were moved to the Main Operating Bases in each country before being transferred back to the United States. As of 2025, only six bases in five countries host an estimated 100 US nuclear weapons.

■ Base still hosts U.S. nuclear weapons ■ Weapons moved to U.S. ■ Weapons moved to Ramstein ■ Weapons moved to Ghedi ■ Weapons moved to Incirlik



* Base has nuclear weapons storage vaults on caretaker status without nuclear weapons present.

¹ Ramstein has nuclear weapons storage vaults on active status, normally without nuclear weapons present.

² Nuclear weapons may have been removed from Lakenheath in 2005, the same year as Ramstein.

Chart: Hans Kristensen, Matt Korda, Eliana Johns, Mackenzie Knight, and Kate Kohn. • Source: Federation of American Scientists • Created with Datawrapper

British nonstrategic nuclear weapons had been scrapped, making the United Kingdom the first nuclear-armed state to reduce its arsenal to a single platform: nuclear-armed ballistic missile submarines.

Meanwhile, the United States continued to deploy and upgrade its own nuclear-capable aircraft and gravity bombs at RAF Lakenheath. The 48th Tactical Fighter Wing was redesignated as the 48th Fighter Wing (FW) in 1991, and the nuclear-capable F-15E replaced the F-111F the following year.²² By the early 2000s, Lakenheath hosted 110 B61 gravity bombs for delivery by U.S. F-15Es of the 492nd and 494th fighter squadrons of the 48th FW.²³

The George W. Bush administration further downsized the U.S. nuclear posture in Europe by reducing the number of nuclear deployment bases and cutting the number of nuclear bombs in half. As FAS revealed in 2008, this included withdrawing all nuclear weapons from RAF Lakenheath, marking the first time since 1954 that there were no U.S. nuclear weapons on U.K. soil.²⁴ The F-15Es of the 48th Fighter Wing at Lakenheath continued to participate in nuclear exercises, but the WS3 vaults at the base were placed in caretaker status. This meant that they would receive basic maintenance but would no longer be nuclear certified and therefore would no longer store nuclear weapons until a decision was made to reactivate the vaults.²⁵

Today, RAF Lakenheath is the largest USAF-operated base in the United Kingdom and maintains a significant role in the U.S. military posture in Europe. In addition to two squadrons of F-15Es, the 48th Fighter Wing at Lakenheath in 2021 became the first wing outside of the United States to operate the F-35A Lightning II, first adding the 495th squadron and later the 493rd squadron.²⁶ The 48th Fighter Wing is currently the only USAF wing to operate both F-15E and F-35A nuclear-capable fighters.

Mounting evidence for the return of the nuclear mission at Lakenheath

A decision to reactivate the nuclear mission at Lakenheath appears to have been made in 2021, possibly as part of the preparations for the Biden administration's 2022 Nuclear Posture Review. The first public sign of the decision appeared in the FY 2023 NATO Security Investment Program document submitted to Congress in April 2022. The document added the United Kingdom to the list of countries to receive upgrades to NATO 'special weapons' sites, and subsequent contract documents and satellite imagery added to the mounting open-source evidence that the nuclear mission would return to Lakenheath.

Budget and procurement documentation

For the past decade, the United States and NATO have invested in significant upgrades to the nuclear bases in Belgium, Germany, Italy, the Netherlands, and Türkiye. Among other infrastructure upgrades – such as the addition

²² 48th Fighter Wing, "The History," p. 9.

²³ Kristensen, "U.S. Nuclear Weapons in Europe," p. 86

²⁴ Hans M. Kristensen, "U.S. Nuclear Weapons Withdrawn From the United Kingdom," FAS Strategic Security Blog, 27 June 2008, <https://fas.org/publication/us-nuclear-weapons-withdrawn-from-the-united-kingdom/>.

²⁵ Hans M. Kristensen, "Lakenheath Air Base Added To Nuclear Weapons Storage Site Upgrades," FAS Strategic Security Blog, 11 April 2022, <https://fas.org/publication/lakenheath-air-base-added-to-nuclear-weapons-storage-site-upgrades/>; Matt Korda and Hans M. Kristensen, "Increasing Evidence that the US Air Force's Nuclear Mission May Be Returning to UK Soil," FAS Strategic Security Blog, 28 August 2023, <https://fas.org/publication/increasing-evidence-that-the-us-air-forces-nuclear-mission-may-be-returning-to-uk-soil/>.

²⁶ 48th Fighter Wing Public Affairs, "U.S. Air Force activates first Europe-based F-35A Squadron," 1 October 2021, <https://www.lakenheath.af.mil/News/Article-Display/Article/2795690/us-air-force-activates-first-europe-based-f-35a-squadron/>; Staff Sgt. Dhruv Gopinath, "48th Fighter Wing welcomes new flagships," 48th Fighter Wing Public Affairs, 20 April 2022, <https://www.lakenheath.af.mil/News/Article-Display/Article/3004447/48th-fighter-wing-welcomes-new-flagships/>.

1. COMPONENT AIR FORCE	FY 2024 MILITARY CONSTRUCTION PROJECT DATA		2. DATE MARCH 2023
3. INSTALLATION AND LOCATION RAF LAKENHEATH UNITED KINGDOM		4. PROJECT TITLE: SURETY DORMITORY	
5. PROGRAM ELEMENT 91211F	6. CATEGORY CODE 721-312	7. PROJECT NUMBER MSET193001	8. PROJECT COST (\$000) 50,000
<p>objective provides unaccompanied enlisted personnel with housing conducive to their proper rest, relaxation, and personal well-being. Properly designed and furnished quarters providing some degree of individual privacy are essential to the successful accomplishment of increasingly complicated and important jobs these airmen perform. The retention of these highly trained airmen is essential to our readiness posture and continuing worldwide presence. The dormitory should also include appropriate sound attenuation to reduce noise to required levels. This is not a tenant or supported service requirement.</p> <p>CURRENT SITUATION: With the influx of airmen due to the arrival of the potential Surety mission and the bed down of the two F-35 squadrons there is a significant deficiency in the amount of unaccompanied housing available for E-4s and below at Royal Air Force Lakenheath.</p> <p>IMPACT IF NOT PROVIDED: Adequate living quarters which provide a level of privacy required for today's airmen will not be available, resulting in degradation of morale, productivity, and career satisfaction for unaccompanied enlisted personnel. If adequate quarters are not available, young, enlisted personnel could be required to move off the installation living miles away due to the base's remote location. The off-base living will also result in an amplified addition to cost of Overseas Housing Allowance.</p> <p>ADDITIONAL: This project meets applicable criteria/scope identified in Air Force Manual 32-1084, Facility Requirements. All work associated with this project shall comply with United States Air Force and Host Nation regulations and agreements. The country-to-country agreement precludes the use of International Competitive Bidding proceedings in the United Kingdom. Work will comply with all relevant Unified Facilities Criteria, Air Force Instructions, and Royal Air Force Lakenheath Base Standards. All reasonable alternatives were considered during the development of this project to include status quo, add/alter, and new construction. New construction is the only viable option to meet this requirement. Sustainable principles, to include life-cycle cost-effective practices will be integrated into the design, development, and construction of the project in accordance with Unified Facility Criteria 1-200-02, High Performance and Sustainable Building Requirements. This includes preparation of a life-cycle cost analysis</p>			

Annotations: Korda/Kristensen, Federation of American Scientists, 2023

of a special loading pad for the U.S. C-17 aircraft that transports nuclear weapons and service equipment – the ongoing modernization at these bases includes security upgrades for the underground vaults that store the nuclear weapons.²⁷ This modernization coincides with the transition to the F-35A fighter bomber and the deployment of the new B61-12 gravity bomb to Europe.

The costs for these upgrades are outlined in the NATO Security Investment Program (NSIP) budget, a report the U.S. Department of Defense (DoD) releases every fiscal year that justifies spending in support of NATO's military requirements, including facilities. In its FY 2023 NSIP budget, the DoD added the United Kingdom to the list of bases receiving upgrades to its "special storage" sites; no explanation was offered for the change.²⁸ While the FY 2023 NSIP budget did not specify a particular base in the United Kingdom, Lakenheath is the only U.S. base with the necessary infrastructure.

Several other public documents confirmed that the upgrades would take place at RAF Lakenheath. Notably, a USAF budget document described the construction of a "surety dormitory" at the base to accommodate an increase in the number of U.S. airmen at the base because of "the arrival of a potential Surety Mission."²⁹ (See image on previous page.) The dormitory was added to accommodate an increase in the number of U.S. airmen at the base because of "the arrival of a potential Surety Mission." The "surety dormitory" was also mentioned without explanation in the U.S. Department of Defense's testimony to Congress in March 2023.³⁰ The term "surety" is typically used by the U.S. Department of Defense and the U.S. Department of Energy when referring to the safety and security of nuclear weapons, signaling that the purpose of the dormitory was to support a potential nuclear mission.

After the Federation of American Scientists reported on these developments in 2022 and 2023, the U.S. Department of Defense altered the budget document to remove any mention of the United Kingdom or other NATO countries where U.S. nuclear weapons are forward-deployed.³¹ But our reporting caused others to look for evidence too; in January 2024, *The Telegraph* reported that new U.S. Department of Defense procurement contracts described plans for the 48th Security Forces Squadron's (SFS) "upcoming nuclear mission."³² The role of the SFS is to protect and defend the base and – if nuclear weapons are deployed – those high-value assets. *The Telegraph* article also references a Statement of Work (SOW) seeking two new dock levelers for loading and unloading vehicles to support the "increase in mission sets."³³ Notably, the document specifically mentioned that this mission increase included the "F35 and the imminent Surety support."³⁴ However, following *The Telegraph* publication, this language was removed from the SOW without a notice or name change to indicate the revision (both the original and scrubbed document include "Rev. 1" in the title).³⁵ (See image on following page.)

Two other examples include an SOW that was published seeking "48 MXG Trailers" to support the "Surety Mission at RAF Lakenheath."³⁶ The U.S. Department of Defense FY 2025 military construction budget also allocated another \$50,000 for a "surety dormitory" at RAF Lakenheath.³⁷

27 Hans M. Kristensen, "NATO Tactical Nuclear Weapons Exercise And Base Upgrades," FAS Strategic Security Blog, 14 October 2024, <https://fas.org/publication/nato-tactical-nuclear-weapons-exercise-and-base-upgrades/>.

28 Kristensen, "Lakenheath Air Base Added."

29 U.S. Department of the Air Force, "Military Construction Program: Fiscal Year (FY) 2024 Budget Estimates," March 2023, p. 255, <https://www.saffm.hq.af.mil/LinkClick.aspx?fileticket=8x62jw60Hg%3D&portalid=84>; Korda and Kristensen, "Increasing Evidence."

30 Korda and Kristensen, "Increasing Evidence."

31 Ibid.

32 Tony Diver, "US to station nuclear weapons in UK to counter threat from Russia," *The Telegraph*, 26 January 2024, <https://www.telegraph.co.uk/world-news/2024/01/26/us-nuclear-bombs-lackenheath-raf-russia-threat-hiroshima/>

33 U.S. Department of Defense, "Statement of Work (SOW) 48 LRS/LGRDDC 2x Dock Levelers at Royal Air Force (RAF) Lakenheath Rev. 1, 22," 23 January 2024, <https://sam.gov/opp/0aedbfe6d3c14b929b0351857cf0d07b/view>

34 Ibid.

35 U.S. Department of Defense, "Statement of Work (SOW) 48 LRS/LGRDDC 2x Dock Levelers at Royal Air Force (RAF) Lakenheath Rev. 1, 22," 31 January 2024, <https://sam.gov/opp/0aedbfe6d3c14b929b0351857cf0d07b/view>

36 U.S. Department of Defense, "Statement of Work (SOW) 48 MXG Trailers At Royal Air Force (RAF) Lakenheath, 14 September 2021," 15 September 2021, <https://sam.gov/opp/08a3cb9f985e43daa595e4a8aff19275/view>

37 Office of the Under Secretary of Defense (Comptroller), "Construction Programs (C-1): Fiscal Year 2025," March 2024, pp. 298, 330, https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2025/FY2025_c1.pdf.

DoD Lakenheath Document Sanitized Following Reporting by The Telegraph

On January 23, 2024, a Statement of Work (SOW) was published to System for Award Management (SAM.gov), an online procurement system for the U.S. government. The SOW included language referencing “surety Support” at RAF Lakenheath, phrasing used when referring to the safety and security of nuclear weapons. On January 26, The Telegraph published a report referencing this language in the SOW. A few days later, the document was removed from SAM.gov and replaced with an altered version that does not include “surety” language. No notice or mention of the revision was provided. Annotations: Federation of American Scientists.

23 January 2024. Original version of the SOW published on SAM.gov

- 1.1 Mission:** The 48 LRS/Deployment and Distribution Flight incorporates Traffic Management Operations (TMO) of Inbound and Outbound cargo for the 48th Fighter Wing as well as providing the ability to deploy the wing at moment's notice. These vital TMO sections require two new dock levelers to safely load and unload vehicles of a multitude of sizes. The contractor shall supply, prepare the area with concrete basing (electrical infrastructure is already in place) and install two dock levelers, whilst removing the two unserviceable dock levelers.
- 1.2 Background:** The installation of two new dock levelers will replace the two currently in place unserviceable dock levelers. They will provide safe, purpose-built equipment to facilitate the loading and unloading of breakbulk cargo. The two existing dock levelers have been unserviceable for several years, with the increase in mission sets, to include F35 and the imminent Surety support, this has highlighted the need to replace these much-required facilities.

26 January 2024. Article referencing this SOW published by The Telegraph

US to station nuclear weapons in UK to counter threat from Russia

Warheads to be housed at RAF Lakenheath for first time in 15 years, Pentagon documents reveal, as Moscow warns of 'escalation'

A second contract, published on Tuesday, advertised for hydraulic ramps for unloading vehicles, noting that the new F35s and “the imminent surety support” had “highlighted the need to replace these much-required facilities”.

Tony Diver
US Editor

26 January 2024 7:00pm GMT

The Telegraph

31 January 2024. Altered version of the SOW with same header updated on SAM.gov

- 1.1 Mission:** The 48 LRS/Deployment and Distribution Flight incorporates Traffic Management Operations (TMO) of Inbound and Outbound cargo for the 48th Fighter Wing. These vital TMO sections require two new dock levelers to safely load and unload vehicles of a multitude of sizes. The contractor shall supply, prepare the area with concrete basing (electrical infrastructure is already in place) and install two dock levelers, whilst removing the two unserviceable dock levelers.
- 1.2 Background:** The installation of two new dock levelers will replace the two currently in place unserviceable dock levelers. They will provide safe, purpose-built equipment to facilitate the loading and unloading of breakbulk cargo. The two existing dock levelers have been unserviceable for several years, with an increased mission set highlighting the need to replace these much-required facilities.

Upgrades to protective aircraft shelters visible on satellite imagery

Some of the upgrades at RAF Lakenheath are visible on satellite imagery. In addition to the construction of a new surety dormitory as mentioned above, upgrades to approximately 28 of the 33 protective aircraft shelters with underground WS3 vaults began in 2022. Upgrades at 22 of those shelters appeared to have been completed as of February 2025, but work continues on the additional six shelters. Updated tarmac infrastructure for two squadrons of F-35As was completed in 2023 as Lakenheath prepared to be the first USAF squadron in Europe equipped with the nuclear-capable F-35A. These changes coincide with other upgrades to air bases in Europe that host U.S. nuclear weapons.



Construction on Nuclear Weapons Storage Vaults at RAF Lakenheath

The return of the nuclear mission to RAF Lakenheath appears to include 28 of the original 33 protective aircraft shelters with underground weapons storage and security system (WS3) vaults. Upgrades of these shelters seem to be nearing completion.

Satellite Imagery © 2024 Google Earth

Addition of RAF Lakenheath as a 2W2X1 Career Assignment Location

In addition to upgrades to facilities, documents also show the addition of training for nuclear weapons personnel. A USAF Career Field and Education Training Plan (CFETP) for nuclear weapons specialists, updated in 2023, added RAF Lakenheath to a list of Career Assignment Locations.³⁸ This base had not been listed in previous versions of the same document. The CFETP outlines the education and training requirements for the nuclear weapons occupational specialty in the USAF, designated by the Air Force Specialty Code (AFSC) "2W2X1." 2WXXX is a broad designation for munitions and weapons personnel, and 2W2XX is a general category referring to personnel who perform weapons

³⁸ U.S. Department of the Air Force, "CFETP 2W2X1 Part I and II: 2W2x1 Nuclear Weapons Career Field Education and Training Plan," 17 March 2023, p. 12, https://static.e-publishing.af.mil/production/1/af_a4/publication/cfetp2w2x1/cfetp2w2x1.pdf.

maintenance and mating/demating tasks.³⁹ Training and experience levels are identified through the two numbers at the end of the AFSC. 2W231 signifies experience performing regular functions, including inspecting, maintaining, and repairing nuclear weapons components as well as the completion of the Nuclear Weapons Apprentice Course. The 2W271 designation demonstrates experience in performing or supervising the functions above, and 2W291 signifies experience managing nuclear weapons and associated resources as well as completion of the Advanced Nuclear Munitions System Course.

In the 2023 CFETP document, RAF Lakenheath is listed alongside other bases, including Kleine Brogel, Offutt, Minot, Warren, Aviano, and others known to have a role in the USAF nuclear mission. RAF Lakenheath was not included in previous years' versions of the 2W2X1 CFETP, indicating a recently added role for nuclear weapons specialists.

Summary and implications

Three years of collection of documentation and observations show that the United States Air Force is re-establishing its nuclear mission on UK soil for the first time in nearly two decades.⁴⁰ The change appears to be a direct reaction to the worsening political and military relations with Russia, resulting from its invasions in 2014 and 2022 of Ukraine, frequent nuclear warnings, and Russian deployment of increasingly capable long-range conventional weapons.

As of February 2025, there are no known public indications that nuclear weapons have been deployed to Lakenheath. Our assessment is that the return of the nuclear mission to Lakenheath is intended primarily as a backup, rather than to deploy weapons now. This is consistent with public statements made by NATO officials. In 2021, NATO Secretary General Jens Stoltenberg stated: "We have no plans of stationing any nuclear weapons in any other countries than we already have these nuclear weapons as part of our deterrence, and that... have been there for many, many years."⁴¹ Two years later, in 2023, while the Lakenheath upgrade was well underway, Jessica Cox, then-head of NATO nuclear policy, echoed Stoltenberg's assurance: "There is no need to change where they are placed."⁴² Private conversations with officials further indicate that the upgrades at the base, at least up until now, have been intended to increase the overall flexibility of the nuclear posture in Europe by enhancing the ability to disperse weapons *if necessary*.

Once construction at RAF Lakenheath is completed and the base becomes an active nuclear site, it could potentially receive nuclear weapons from other locations in Europe in a crisis or emergency contingency. Visible upgrades at bases across Europe are also designed to facilitate the rapid movement of weapons between bases to increase operational flexibility and reduce vulnerability to Russia's increasingly capable long-range conventional missiles. In the case of a nuclear crisis with Russia, a portion of U.S. nuclear weapons could be redistributed from more vulnerable NATO bases to RAF Lakenheath to improve survivability and complicate Russia's targeting strategy.⁴³ Redistribution of weapons could potentially also be used to signal a willingness to use nuclear weapons during a serious crisis.

Changes within NATO itself could also potentially force a redistribution of nuclear weapons. One such potential scenario occurred in 2016 during the coup attempt in Türkiye, when power to Incirlik Air Base was cut off for nearly a week. U.S. security forces were put on full alert while Turkish president Erdogan accused the head of U.S. Central

39 U.S. Department of the Air Force, "Air Force Manual 21-204: Nuclear Weapons Maintenance," 13 August 2019, p. 36. <https://irp.fas.org/doddir/usaf/afman21-204.pdf>.

40 Korda and Kristensen, "Increasing Evidence."

41 Mark Bendeich, "Keynote interview with NATO Secretary General Jens Stoltenberg at Reuters Next Event," North Atlantic Treaty Organization, 1 December 2021, https://www.nato.int/cps/en/natohq/opinions_189158.htm.

42 Elna Kervinen, "NATO's head of nuclear weapons policy: The risk of using nuclear weapons has increased, but Russia's weapons are still largely in a peacetime position," Helsingin Sanomat, September 30, 2023, <https://www.hs.fi/politiikka/art-2000009891918.html>.

43 Korda and Kristensen, "Increasing Evidence."

Command of “taking sides” in the coup.⁴⁴ Another scenario occurred after a clash between Türkiye and the United States over Syria in 2019, during which U.S. agencies reportedly quietly reviewed evacuation plans for the nuclear weapons at Incirlik Air Base.⁴⁵ The number of vaults being reactivated at Lakenheath appears to be similar to the number of active vaults at Incirlik. Satellite images from 2017 and 2019 did show what appeared to be nuclear weapons shipments at Incirlik, but these could have been regular transports or exercises, and there are no known public indications that U.S. nuclear weapons have been withdrawn from Incirlik.⁴⁶

As of early 2025, we estimate that approximately 100 U.S. B61-12 gravity bombs are stored across six air bases in five NATO countries – Aviano and Ghedi in Italy, Incirlik in Türkiye, Kleine Brogel in Belgium, Volkel in Netherlands, and Büchel in Germany – after the United States announced in early 2025 that “the B61-12 gravity bombs are fully forward deployed.”⁴⁷ (See image on following page.) The F-35A Lightning II was technically certified in March 2024 to carry the B61-12 gravity bomb, officially making it a dual-capable aircraft.⁴⁸ Aside from Türkiye, each NATO country that hosts U.S. nuclear weapons has purchased the F-35A to replace their legacy aircraft in the nuclear delivery role.⁴⁹ In 2022, RAF Lakenheath became the first European base to receive the F-35A.⁵⁰

So far, we have not seen indications that the B61-12 nuclear bomb has been deployed to RAF Lakenheath. If this were to happen, it would break with decades of policy and planning and reverse the southern focus of the European nuclear deployment that emerged after the end of the Cold War. It would likely also require consent from the U.K. Prime Minister. Even without weapons present, the addition of a large nuclear air base in northern Europe is a significant new development that would have been inconceivable just a decade-and-a-half ago.

44 Richard Sisk, “Interviews Reveal Chaos at Incirlik on Night of Coup Attempt in Turkey,” *military.com*, August 3, 2016, <https://www.military.com/daily-news/2016/08/03/interviews-reveal-chaos-incirlik-night-coup-attempt-in-turkey.html>

45 David Sanger, “Trump Followed His Gut on Syria. Calamity Came Fast,” *New York Times*, October 14, 2019, <https://www.nytimes.com/2019/10/14/world/middleeast/trump-turkey-syria.html>

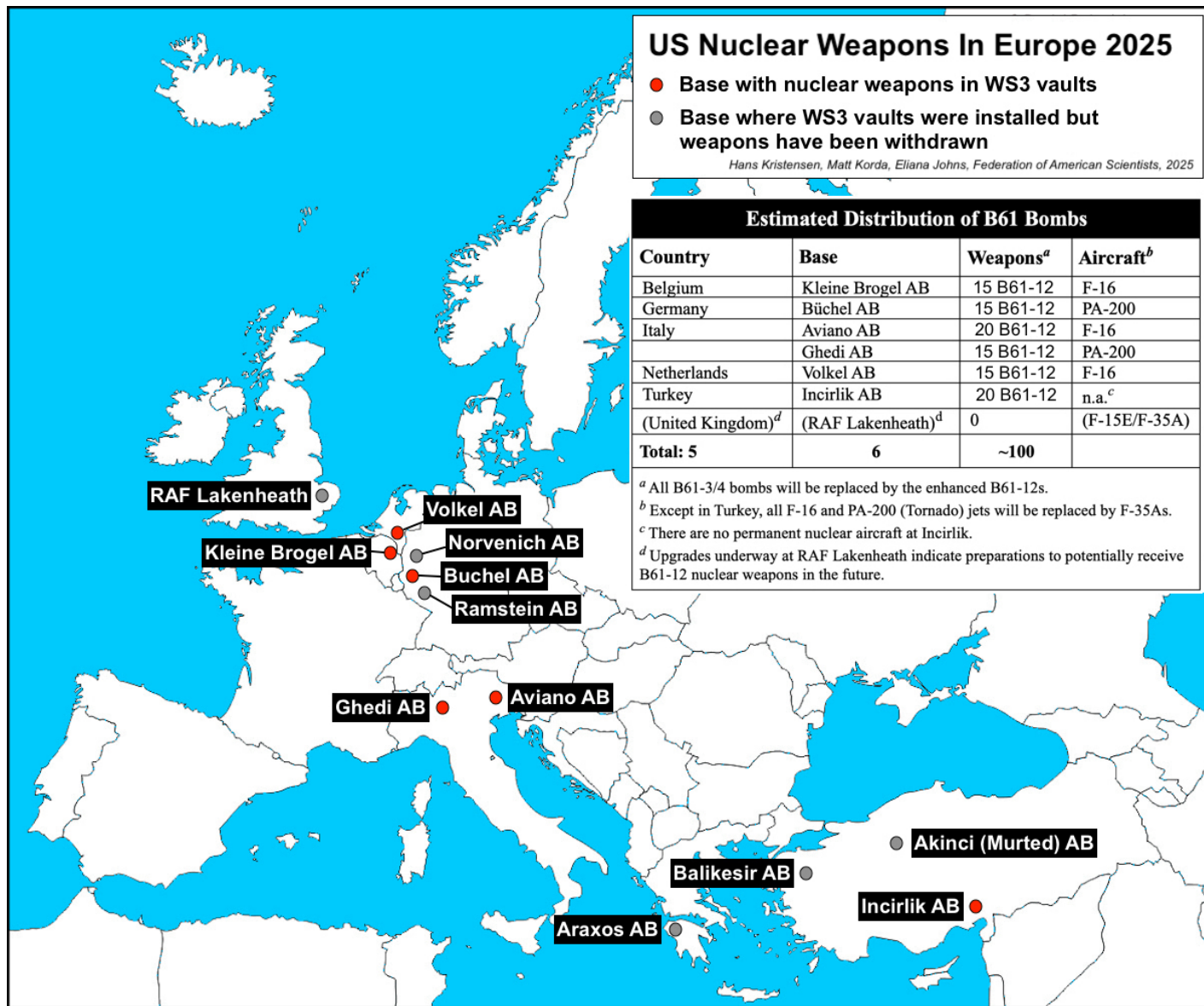
46 Hans Kristensen, “Urgent: Move US Nuclear Weapons Out Of Turkey,” *FAS Strategic Security Blog*, October 16, 2019, <https://fas.org/publication/nukes-out-of-turkey/>

47 U.S. Department of Energy, National Nuclear Security Administration, “NNSA Administrator Jill Hruby Remarks at the Hudson Institute,” January 16, 2025, <https://www.energy.gov/nnsa/articles/nnsa-administrator-jill-hruby-remarks-hudson-institute>

48 U.S. Department of Defense Office of Inspector General, “Press Release: Evaluation of the Air Force’s Nuclear Design Certification of the F-15E, B-2, and F-35A Aircraft to Carry the B61-12 Nuclear Bomb (Report No. DODIG-2024-080),” 9 May 2024, <https://www.dodig.mil/In-the-Spotlight/Article/3769679/press-release-evaluation-of-the-air-forces-nuclear-design-certification-of-the/>

49 Kristensen et. al., “United Kingdom Nuclear Weapons,” p. 397.

50 Abraham Mahshie, “RAF Lakenheath Becomes USAF’s First European Base to Get F-35s,” *Air and Space Forces Magazine*, 21 January 2022, <https://www.airandspaceforces.com/article/raf-lakenheath-becomes-usafs-first-european-base-to-get-f-35s/>



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