Nuclear Disarmament: Weapons Stockpiles

Last update: July 2015

Country	Strategic Nuclear Forces-Delivery System	Operational Strategic Warheads	Operational Non-Strategic Warheads	Miliraty Stockpile	0	0
Belarus[1]	0	0	0	0	0	0
China[2]	~160	~250	?	~260	62	~260
France[3]	~98	~290	0	~290	~10	~300
India[4]	?	?	?	90-110	?	90-110
Israel[5]	?	?	?	*80-200	?	*80-200
Kazakhstan[6]	0	0	0	0	0	0
North Korea[7]	?	?	?	6-8*	?	6-8*
Pakistan[8]	?	?	?	100-120	?	100-120
Russia[9]	543	1,780	0	4,500	3,000	7,500
South Africa[10]	0	0	0	0	0	0
Ukraine[11]	0	0	0	0	0	0
UK[12]	48	No more than 120	0	No more than 120	65	No more than 225
USA	798	1,900	180	4,760	2,680	7,100
USA nukes in NATO[13]	0	0	160-200	160-200	0	160-200

* Figures provided are the best available open source estimates, implying some level of uncertainty.

Sources:

[1] The nuclear weapons inherited by Belarus after the break-up of the Soviet Union were all transferred to Russia by the end of 1996. “Belarus Country Profile,” Nuclear Threat Initiative, www.nti.org.

[2] The precise number of Chinese nuclear warheads and delivery systems are unknown. The latest estimates of China's nuclear arsenal put its total number of war-

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heads at approximately 250. It is believed that the Chinese arsenal is increasing with production of new warheads for DF-31/31A and JL-2 missiles. A 2014 Department of Defense report revealed that China has modified its DF-5 ICBM; the DF-5 now includes a multiple independently targetable re-entry vehicle (MIRV). Additionally, the Department of Defense report to Congress revealed that China is developing a new ICBM, the DF-41. The DF-41 may be capable of carrying MIRVs. China has also increased its stockpile of submarine-launched ballistic missiles and the number of its cruise missiles. It is believed that China keeps its active nuclear warheads in storage, decoupled from delivery systems; nuclear warheads must be mated with delivery systems before deployment. Therefore, the term "operational warhead" holds a different meaning for China than for the other four nuclear-weapon states. For China, "operational warhead" refers to the active number of nuclear warheads that could be quickly deployed during a time of crisis. Open source estimates do not offer quantitative assessments of China's non-strategic nuclear forces. China's latest biennial white paper on defense in 2012 reaffirmed its commitments to no-first use and minimum deterrence.

Hans M. Kristensen and Robert S. Norris, "Chinese Nuclear Forces, 2015," *Bulletin of Atomic Scientists,* June/July 2015, pp. 77-84, www. thebulletin.org; "Military and Security Developments Involving the People's Republic of China 2015," Annual Report to Congress, April 7, 2015, www.defense.gov.

[3]In 2006, then-President Jacques Chirac announced France would undertake reductions to its nuclear arsenal. Former President Sarkozy reaffirmed France's commitment to reductions in 2008 and indicated he would initiate further cuts. The 2008 French white paper on defense reaffirmed these presidential commitments. Estimates put the number of operationally deployed French nuclear warheads at approximately 290. While France does not possess any reserve warheads, it is believed to have approximately 10 spare warheads. On February 19, 2015 President Hollande increased transparency by sharing new figures on the French nuclear arsenal. Statements by Hollande reveal that France will not take further steps on disarmament, but neither will it increase its arsenal size; France will work to modernize its nuclear forces while staying within the bounds of its international obligations. Shannon N. Kile, Vitaly Fedchenko, Bharath Gopalaswamy and Hans M. Kristensen, "World Nuclear Forces," in SIPRI Yearbook 2014: Armaments, Disarmament, and International Security, Stockholm International Peace Research Institute (Oxford: Oxford University Press, 2014), pp. 320-359; French President Hollande, Speech on Nuclear Deterrence, February 19, 2015, www.nuclearfiles.org.

Hans Kristensen, "Assuring Destruction Forever," *Reaching Critical Will*, 2012, pp. 27-33, www.reachingcriticalwill.org; Hans M. Kristensen, and Robert S. Norris, "Global nuclear weapons inventories, 1945–2013," *Bulletin of the Atomic Scientists* 2013 69:75-81, www.thebulletin.org.

[4]Determining the size and composition of the Indian nuclear arsenal using open source information cannot be done with a high degree of certainty. The latest estimate of 90-110 nuclear weapons takes into account plutonium production and available delivery systems. India is believed to be expanding their nuclear weapon stockpiles as well as their missile delivery capabilities. India is believed to keep its warheads decoupled from delivery systems under normal circumstances. Assessments issued by the National Air and Space Intelligence Center in 2009 and the SIPRI Yearbook 2014 estimates the number of deployed missile launchers as follows: Agni 1: fewer than 25; Prithvi 1: fewer than 50; Agni 2, fewer than 10; Agni 3: not fully operational; Agni 4: under development; and Agni 5: under development. Indian officials disclosed that the Agni 5 was being adapted to have multiple independently targetable re-entry vehicles (MIRVs).

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Shannon N. Kile, and Hans M. Kristensen, "Chapter 6: World Nuclear Forces Overview" in *SIPRI Yearbook 2014, India Nuclear Forces*, June 2014, www.sipri.org; Shannon N. Kile, Vitaly Fedchenko, Bharath Gopalaswamy and Hans M. Kristensen, "World Nuclear Forces," in *SIPRI Yearbook 2011: Armaments, Disarmament, and International Security*, Stockholm International Peace Research Institute (Oxford: Oxford University Press, 2011), pp. 320-359; Federation of American Scientists, Status of World Nuclear Forces, www.fas.org; Hans M. Kristensen and Robert S. Norris, "Indian Nuclear Forces, 2012," *Bulletin of the Atomic Scientists,* Vol. 68 (4), July/August 2012, pp.96-101, www.thebulletin.org; Timothy McDonnell, "Nuclear pursuits: Non-P-5 nuclear-armed states, 2013," *Bulletin of the Atomic Scientists* 2013 69:62-70, www.thebulletin.org; Rhik Kundu, "Agni VI in the works; will take out several targets," *The Times of India*, February 10, 2013.

[5]Israel's policy of nuclear opacity prevents the release of any definitive information about its presumed nuclear weapons program. Therefore, estimates of the size of its nuclear arsenal remain uncertain. However, assessments based on testimony provided by Dimona whistleblower Mordechai Vanunu and other analyses of the Israeli nuclear program speculate Israel that has produced enough fissile material for between 100 and 200 nuclear weapons. U.S. intelligence reports suggest the arsenal contains approximately 80 warheads. More extreme estimates place Israel's arsenal at approximately 400 nuclear weapons.

Hans M. Kristensen, and Robert S. Norris, "Global nuclear weapons inventories, 1945–2013," *Bulletin of the Atomic Scientists* 2013 69:75-81, www.thebulletin.org; Shannon N. Kile, Vitaly Fedchenko, Bharath Gopalaswamy and Hans M. Kristensen, "World Nuclear Forces," in SIPRI Yearbook 2011: Armaments, Disarmament, and International Security, Stockholm International Peace Research Institute (Oxford: Oxford University Press, 2011), pp. 320-359; *Federation of American Scientists,* Status of World Nuclear Forces, www.fas.org; Timothy McDonnell, "Nuclear pursuits: Non-P-5 nuclear-armed states, 2013" *Bulletin of the Atomic Scientists* 2013 69:62- 70, www.thebulletin.org.; Merav Datan, "Israel," Assuring Destruction Forever, *Reaching Critical Will,* March 2012, pp. 44-50, www.reachingcriticalwill.org.

[6]Kazakhstan inherited what was then the fourth largest stockpile of nuclear weapons in the world after the collapse of the Soviet Union. It chose to renounce nuclear weapons and transferred all 1,410 nuclear warheads to Russia by the end of 1995.
"Kazakhstan Nuclear Overview," Nuclear Threat Initiative, www.nti.org.

[7]Any estimate of North Korea's nuclear weapons capability has a high degree of uncertainty. North Korea's three nuclear test explosions demonstrated its' ability to build rudimentary nuclear explosive devices. The IPFM places North Korea's stock of separated plutonium at 24 to 42kg. If accurate and assuming 5kg of plutonium used per weapon, North Korea could have built up to 8 nuclear warheads. In addition, North Korea has a uranium enrichment program, but its extent and purposes remain uncertain. In August 2013, North Korea updated its uranium enrichment plant, creating enough space for up to 4,000 centrifuges—enough to double its uranium enrichment activities.

Shannon N. Kile, Vitaly Fedchenko, Bharath Gopalaswamy and Hans M. Kristensen, "World Nuclear Forces," in *SIPRI Yearbook 2011: Armaments, Disarmament, and International Security,* Stockholm International Peace Research Institute (Oxford: Oxford University Press, 2011), pp. 320-359; "Jane's CBRN Assessments, Key Facts: Nuclear, Korea, North," *Jane's Information Group,* January 7, 2010. "North Korea Profile, Missile Overview," Nuclear Threat Initiative, www.nti.org. Seigfried S. Hecker and Robert Carlin, "North Korea in 2011: Countdown to Kim il-Sung's Centenary," *Bulletin of the Atomic Scientists,* Vol. 68 (1), January/February 2012, pp.

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.

50-60, www.thebulletin.org; Timothy McDonnell, "Nuclear pursuits: Non-P-5 nuclear-armed states, 2013" *Bulletin of the Atomic Scientists* 2013 69:62-70, www.thebulletin.org.; Kelsey Davenport, "N. Korea Continues to Evade Sanctions" in *Arms Control Today* from the Arms Control Association, September 2013, www.armscontrol.org.

[8]A key facet of Pakistan's defense doctrine is the maintenance of a credible minimum nuclear deterrent. The number of nuclear weapons to fulfill this deterrent remains undefined. The latest estimates of Pakistan's nuclear arsenal put its total number of warheads at 100-120. Pakistan's nuclear capabilities continue to expand rapidly. Pakistan and India are in an arms race to deploy new weapon types and are believed to be increasing their stockpiles. At the current rate of expansion, its arsenal could grow to 200 warheads within a decade; Pakistan is on track to become the fourth largest nuclear weapons state in the world, surpassing the United Kingdom in numbers. The Nasr (Hatf-9) missile under development with a range of only 60km indicates that Pakistan is working towards developing tactical nuclear weapons for use in the battlefield against India's conventional forces. The Pakistani military news organization states that the Nasr missile has "shoot and scoot" capabilities to add to Pakistan's deterrence credibility. The number of Pakistan's nuclear-capable delivery systems remains unclear. According to an assessment issued by the National Air and Space Intelligence Center in 2009, the number of deployed missile launchers is as follows: Ghaznavi/Shaheen-haheennence Center Ghauri; fewer than 50; and Shaheen 2: unknown.

Hans M. Kristensen and Robert S. Norris, "Pakistan's nuclear forces, 2011," *Bulletin of the Atomic Scientists,* July 2011, pp. 91 by www.thebulletin.org; "Ballistic and Cruise Missile Threat," National Air and Space Intelligence Center, April 2009, www.fas.org; Hans. M Kristensen, "Pakistan's 'Shoot and Scoot' Nukes: FAS Nukes in Newsweek," *Federation of American Scientists Strategic Security Blog,* 17 May 2011, www.fas.org/blog/ssp/; Hans M. Kristensen, and Robert S. Norris, "Global nuclear weapons inventories, 1945–2013," *Bulletin of the Atomic Scientists* 2013 69:75-81, www.thebulletin.org; David E. Sanger and Eric Schmitt, "Pakistani Nuclear Arms Pose Challenge to U.S. Policy," *The New York Times,* January 31, 2011, www.nytimes.com; Main Committee I Statement," Report by Mr. Guy Pollard, Deputy Permanent Representative of the United Kingdom to the Conference on Disarmament, 2015 Review Conference of the Treaty on Non-Proliferation of Nuclear Weapons, April 27-May 22, 2015.

[9]The figures provided for Russia's strategic warheads and delivery systems rely heavily upon New START data provided biannually by the Russian government. Of the estimated 1,780 strategic nuclear warheads, only about 1,800 warheads are deployed on missiles and at bomber bases. At the 2015 NPT Review Conference the Russian Federation announced that it had reduced its number of deployed warheads to 1,582 and emphasized that they are in compliance with the New START Treaty. Analysts Hans M. Kristensen and Pavel Podvig estimate that Russia has approximately 2,000 operational nonstrategic warheads. According to the Russian government, all non-strategic nuclear warheads are in storage. There are an estimated 3,000 strategic and nonstrategic warheads awaiting dismantlement. The Nuclear Notebook estimates the 4,500 operational warheads plus the 3,000 warheads awaiting dismantlement give Russia a total nuclear arsenal of approximately 7,500. In June 2015 President Vladimir Putin announced that Russia would increase the size of its nuclear arsenal, introducing 40 new ICBMs over the next 5 years.

Hans M. Kristensen and Robert S. Norris, "Russian Nuclear Forces, 2013," *Bulletin of the Atomic Scientists,* 1 May 2013, www.thebulletin.org; Shannon N. Kile, Vitaly Fedchenko, Bharath Gopalaswamy and Hans M. Kristensen, "World Nuclear Forces," *SIPRI Yearbook 2011: Armaments, Disarmament, and International Security, Stockholm International Peace Research Institute* (Oxford: Oxford University Press, 2011), pp. 320; M. Kristensen and Robert S. Norris, "Russian Nuclear Forces, 2012," *Bulletin of the Atomic Scientists,* 5 March 2012, www.thebulletin.org; Pavel Podvig, "Russian Federation," in the report "Assuring Destruction Forever," published by *Reaching Critical Will,* March 2012, www.reachingcriticalwill.org; Russian Statement at Main Committee I of the 2015 NPT Review Conference, May 1, 2015, www.reachingcriticalwill.org; Maria Tsvetkova, "Putin says Russia beefing up nuclear arsenal, NATO denounces 'sabre-rattling,'" June 16, 2015, www.reuters.com.

[10]South Africa remains the only country in the world to have developed nuclear weapons indigenously and then dismantled its weapons and weapons program completely. After thorough inspections, the IAEA concluded in 1995 "that there were no indications to suggest that the initial inventory is incomplete or that the nuclear program was not completely terminated or dismantled.
Adolf Baeckmann, Gary Dillon and Demetrius Perricos, "Nuclear Verification in South Africa," *IAEA Bulletin 1*(1995), www.iaea.org; "South Africa Nuclear Overview," Nuclear Threat Initiative, www.nti.org; Timothy McDonnell, "Nuclear pursuits: Non-P-5 nuclear-armed states, 2013" *Bulletin of the Atomic Scientists* 2013 69:62-70, www.thebulletin.org.

[11]After the collapse of the Soviet Union in 1991, Ukraine inherited approximately 1,900 strategic and 2,275 tactical nuclear warheads. However, Ukraine chose to accede to the NPT as a non-nuclear weapon state. By the end of 1996 the Ukrainian government transferred all of its weapons and associated delivery systems to Russia for dismantlement. "Ukraine Nuclear Overview," Nuclear Threat Initiative, www.nti.org.

[12]The 2010 SDSR indicates the United Kingdom currently has a "nuclear warhead stockpile ceiling" set at 225 warheads, of which "fewer than" 160 are operationally available. All of its strategically deployed nuclear forces are deployed on its fleet of four nuclear submarines at 225 warheads, of which at least one SSBN remains on patrol at all times. Two more can be deployed on short notice. Each SSBN can hold up to 16 submarine-launched ballistic missiles equipped with three warheads.

Hans M. Kristensen and Robert S. Norris, "British Nuclear Stockpile, 1953-2013," *Bulletin of the Atomic Scientists,* Vol. 69(4), pp. 69-75, July 2013, www.thebulletin.org; Shannon N. Kile, Vitaly Fedchenko, Bharath Gopalaswamy and Hans M. Kristensen, "World Nuclear Forces," in *SIPRI Yearbook 2014: Armaments, Disarmament, and International Security,* Stockholm International Peace Research Institute (Oxford: Oxford University Press, 2014), pp. 320-359; Prime Minister of the United Kingdom by Command of Her Majesty, "Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review," (London: Crown Copyright, 2010), pp. 37-38; "Britain discloses size of nuclear stockpile: Who's next?" *Federation of American Scientists,* Strategic Security Blog, www.fas.org; U.K. Ministry of Defence, "2010 to 2015 Government Policy: UK Nuclear Deterrent," Policy Paper, May 8, 2015, www.gov.uk; "Nuclear Weapons: Who Has What at a Glance," *Arms Control Association,* April 2015, www.armscontrol.org.

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[13]Analysts Kristensen and Norris cite a March 2011 statement by the U.S. national security advisor saying that the US stockpile is "approximately 5,000 warheads." The New START data from December 2011 includes a report of US weapon delivery systems. The number of non-strategic forces includes 150 to 200 NATO warheads deployed in Europe, 300 reserve bombs and around 260 Tomahawk cruise missile warheads. The 2010 Nuclear Posture Review slated the Tomahawk for retirement. Thus the total number of operationally deployed nuclear warheads includes 1,950 strategic weapons and 200 NATO weapons.

Hans M. Kristensen and Robert S. Norris, "US Nuclear Forces, 2013," *Bulletin of the Atomic Scientists,* Volume 69 (2), March 2013, www.thebulletin.org; Shannon N. Kile, Vitaly Fedchenko, Bharath Gopalaswamy and Hans M. Kristensen, "World Nuclear Forces," in *SIPRI Yearbook 2011: Armaments, Disarmament, and International Security,* Stockholm International Peace Research Institute (Oxford: Oxford University Press, 2011), pp. 320 and 200 NATO Kristensen, "Status of World Nuclear Forces," *Federation of American Scientists,* www.fas.org; Hans M. Kristensen and Robert S. Norris, "US Nuclear Forces, 2012," *Bulletin of the Atomic Scientists,* Volume 68 (3), 2012, www.thebulletin.org.

[14]The current estimate of 160 to 200 tactical nuclear weapons stationed in Europe is in line with comments made by a U.S. Defense Department official at a NATO meeting in 2009. This figure represents a drastic reduction from an estimated 7,300 U.S. owned nuclear weapons in Europe during the Cold War. Belgium, Germany, the Netherlands, Italy and Turkey are all believed to currently have tactical nuclear weapons stationed on their territories.
Hans M. Kristensen, "Non- Strategic Nuclear Weapons, Special Report No. 3," *Federation of American Scientists,* May 2012, www.fas.org.