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Nuclear warheads cold war

U.S. and Soviet Union/Russia Nuclear Weapons Stockpile Nuclear Weapons Background History War Design Tests Delivery Tests Yield Effects and Estimated Megadeaths explosions Winter Workers Ethics Arsenals race Espionage Proliferation Disarmament Terrorism Opposition Nuclear-armed States NPT recognizedUnit States Russia United Kingdom France China OthersIndia Israel (undeclared) Pakistan North Korea Former South Africa Kazakhstan Kazakhstan Ukraine cte The nuclear arms race was an arms race for supremacy in nuclear war between the United States, the Soviet Union, and their respective allies during the Cold War. During the same period, in addition to the U.S. and Soviet nuclear stockpiles, other countries developed nuclear weapons, although none engaged in the production of warheads on much the same scale as the two superpowers. World War II The first nuclear weapon was created by the United States of America during World War II and was developed for use against the Axis powers. Scientists in the Soviet Union were aware of the potential of nuclear weapons and had also conducted field research. [2] The Soviet Union was not officially informed of the Manhattan Project until Stalin was informed at the Potsdam Conference on July 24, 1945, by U.S. President Harry S. Truman,[4][4] eight days after the first successful test of a nuclear weapon. Despite their wartime military alliance, the United States and Britain had not trusted the Soviets enough to keep knowledge of the Manhattan Project safe from German spies: it was also expected that, as an ally, the Soviet Union would ask for and expect to receive technical details about the new weapon. [citation needed] When President Truman informed Stalin of weapons, he was surprised at how calm Stalin reacted to the news and thought that Stalin had not understood what he had been told. Other members of the delegations of the United States and Great Britain who closely observed the exchange concluded the same conclusion. [4] In fact Stalin had long been aware of the program,[5] despite the Manhattan project having such a high secret classification that, even as vice president, Truman did not know about it or the development of weapons (Truman was not informed until shortly after he became president). [5] A ring of spies operating in the Manhattan Project, (including Klaus Fuchs[6] and Theodore Hall) had kept Stalin well informed of American progress. They provided the Soviets with detailed designs of the implosion bomb and hydrogen bomb. [citation needed] Fuchs' arrest in 1950 arrested many other alleged Russian spies, including Harry Gold, David Greenglass, and Ethel and Julius Rosenberg. In August 1945, on Truman's orders, two atomic bombs were dropped on Japanese cities. The first bomb was dropped on Hiroshima, and the second bomb was dropped on Nagasaki by the B-29 bombers named Enola Gay and Bockscar respectively. Shortly after the end of the Second World War in 1945, the United Nations was founded. At the first United Nations General Assembly in London in January 1946, they discussed the future of nuclear weapons and created the United Nations Atomic Energy Commission. The purpose of this assembly was to eliminate the use of all nuclear weapons. The United States presented its solution, which was called the Baruch Plan. [9] This plan proposed that there be an international authority that controls all dangerous atomic activities. The Soviet Union did not agree with this proposal and rejected it. The Soviet proposal was for universal nuclear disarmament. The American and Soviet proposals were rejected by the United Nations. Cold War Beginning Main Articles: Mass Retaliation, Cold War (1947-1953) and Cold War (1953-1962) Warhead Development In the years immediately after World War II, the United States had a monopoly on specific knowledge and raw materials of nuclear weapons. U.S. leaders hoped that their exclusive ownership of nuclear weapons would be sufficient to secure concessions from the Soviet Union, but this proved ineffective. Just six months after the UN General Assembly, the United States conducted its first post-war nuclear tests. This was called Operation Crossroads. [10] The purpose of this operation was to test the effectiveness of nuclear explosions on ships. These tests were carried out at Bikini Atoll in the Pacific on 95 ships, including German and Japanese ships that were captured during World War II. One plutonium implosion bomb exploded over the fleet, while the other exploded underwater. Behind the scenes, the Soviet government was working on building its own atomic weapons. During the war, Soviet efforts were limited by a lack of uranium, but new supplies to Eastern Europe were found and provided a steady supply while the Soviets developed a national source. While American experts had predicted that the Soviet Union would not have nuclear weapons until the mid-1950s, the first Soviet bomb exploded on August 29, 1949, shocking the entire world. The bomb, named First Lightning by the West, was more or less a copy of Fat Man, one of the bombs that the United States dropped on Japan in 1945. Both governments have spent massive sums to improve the quality and quantity of their nuclear arsenals. The two countries quickly began the development of a hydrogen bomb and the United States detonated the first hydrogen bomb on November 1, 1952, on Enewetak, an atoll in the Pacific Ocean. Named Ivy Mike, project is led by Edward Teller, a Hungarian-American nuclear physicist. It created a cloud 100 miles wide and 25 miles high, killing all life on the surrounding islands. [12] Again, the Soviets surprised the world by detonating a deployable thermonuclear device in August 1953, although it was not a real multi-stage hydrogen bomb. However, it was small enough to be dropped from a plane, making it ready for use. Development these two Soviet bombs were greatly aided by Russian spies Harry Gold and Klaus Fuchs. On March 1, 1954, the United States conducted the Castle Bravo test, which tested another hydrogen bomb on Bikini Atoll. [13] Scientists significantly underestimated the size of the bomb, thinking it would yield 5 megatonnes. However, it yielded 14.8 megatonnes, which is the largest nuclear explosion tested by the United States. The explosion was so large that the nuclear fallout exposed residents up to 300 miles away to significant amounts of radiation. They were eventually evacuated, but most suffered radiation poisoning and caused the death of a crew member of a fishing vessel 90 miles from the explosion. The Soviet Union detonated its first real hydrogen bomb on November 22, 1955, which had a yield of 1.6 megatonnes. On October 30, 1961, the Soviets detonated a hydrogen bomb with a output of about 58 megatonnes. Arms race With both sides of the Cold War having nuclear capability, an arms race developed, with the Soviet Union first trying to catch up and then overtaking the Americans. In 2019, Russian Deputy Foreign Minister Sergei Ryabkov warned of the risk of nuclear war, with the negative dynamics noticeable compared to the previous year. He urged nuclear states to build channels to prevent possible incidents, in order to reduce the risks. [16] Delivery vehicles Strategic bombers were the main delivery method at the beginning of the Cold War. Missiles have long been considered the ideal platform for nuclear weapons and were potentially a more efficient delivery system than bombers. Beginning in the 1950s, medium-range ballistic missiles and intermediate-range ballistic missiles (IRBMs) were developed for the delivery of tactical nuclear weapons, and the technology developed at progressively longer ranges, eventually becoming intercontinental ballistic missiles (ICBMs). On October 4, 1957, the Soviet Union showed the world that it had missiles capable of reaching any part of the world when it launched the Sputnik satellite into Earth orbit. The United States launched its first Explorer 1 satellite on January 31, 1958. In the meantime, submarine-launched ballistic missiles have also been developed. In the mid-1960s, the triad of nuclear weapons delivery was established, with each side deploying bombers, ICBMs and ERCs to ensure that even if a defence was found against a delivery method, other methods would still be available. Some in the U.S. in the early 1960 pointed out that, although all individual components of nuclear missiles were tested separately (warheads, navigation systems, rockets), it was impossible to test them all combined. Critics have accused that it was not clear how a warhead would react to gravitational forces and temperature differences in the upper atmosphere and space, and Kennedy was unwilling to test an ICBM with a living warhead. The thing closest to one of a was Operation Bird Frigate of 1962, during which the submarine USS Ethan Allen (SSBN-608) launched a Polaris A2 missile more than 1,000 miles from the Christmas Island nuclear test site. It was challenged, among other things, by Curtis LeMay, who questioned the accuracy of the missiles in order to encourage the development of new bombers. Other critics pointed out that this was a single criterion that could be an anomaly; that it was a low-altitude SLBM and was therefore subject to conditions different from that of an ICBM; and that significant changes had been made to its warhead prior to the tests. intercontinental ballistic missiles (ICBMs), warheads and jet weights from the United States and the Soviet Union, 1964-1982[17][18] Year launchers Ogives Megatonnage Soviet Union Soviet Union United States United States Soviet Union United States 1964 2 416 375 6,800 500 7,500 1,000 196 6 2,396,435 5 000 550 5,600 1,200 1968 2,360 1,045 4,500 850 5 100 2 300 197 0 2 230 1,680 3,900 1,800 4,300 3,100 1972 2 230 2 090 5 800 2 100 4 100 4 100 4 090 000 1974 2 180 2 380 8 400 2 400 3 800 4 200 1976 2 100 2 390 9 400 3 200 3 700 4 500 1978 2 058 2 350 9 800 5 200 3 800 5 400 1980 2 042 2 490 10 000 7 200 4 000 4 000 4 000 4 0006 200 1982 2 032 2 490 11 000 10,000 4,100 8,200 Mutual Assured Destruction (MAD) Main article: Mutual destruction assured In the mid-1960s, the United States and the Soviet Union had enough nuclear energy to clear [necessary clarification] on the other side. Both sides have developed an ability to launch a devastating attack, even after suffering a full assault on the other side (especially by means of submarines), called a second strike. [19] This policy became known as mutually assured destruction: both sides knew that any attack on the other would be devastating for themselves, thus holding them in theory to attack the other. Soviet and American experts hoped to use nuclear weapons to obtain concessions from each other, or other powers like China, but the risk associated with the use of these weapons was so great that they abstained from what John Foster Dulles called brinkmanship. While some, such as General Douglas MacArthur, argued that nuclear weapons should be used during the Korean War, Truman and Eisenhower opposed the idea. [citation needed] Both sides were not aware of the details of the enemy's nuclear weapons arsenal capability. The Americans suffered from a lack of confidence and, in the 1950s, they believed in a non-existent bomber hole. Aerial photography later revealed that the Soviets had played a kind of Potemkin village game with their bombers in their military parades, flying them in large circles, appear that they had much more than they really did. The 1960 U.S. presidential election saw accusations of a completely fallacious missile gap between the Soviets and the Americans. On the other hand, the Soviet government exaggerated the power of Soviet weapons to the leadership and Nikita Khrushchev. [citation needed] Main initial initial nuclear proliferation Nuclear Proliferation In addition to the United States and the Soviet Union, three other nations, the United Kingdom,[20] the People's Republic of China,[21] and France,[22] developed nuclear weapons at the beginning of the Cold War. In 1952, the United Kingdom became the third nation to possess nuclear weapons when it detonated an atomic bomb during Operation Hurricane[23] on October 3, 1952, which had a yield of 25 kilotons. Despite significant contributions from the Canadian and British governments to the Manhattan Project, the U.S. Congress passed the Atomic Energy Act of 1946, which prohibited multinational cooperation on nuclear projects. The Atomic Energy Act fuelled resentment among British scientists and Winston Churchill for believing there were agreements on the sharing of nuclear technology after the war, and led Britain to develop its own nuclear weapons. Britain did not begin planning the development of its own nuclear weapon until January 1947. Because of britain's small size, they decided to test their bomb on the Monte Bello Islands off the coast of Australia. Following this successful test, under Churchill's leadership, Britain decided to develop and test a hydrogen bomb. The first successful hydrogen bomb test took place on November 8, 1957, with a yield of 1.8 megatonnes. [24] An amendment to the Atomic Energy Act in 1958 allowed nuclear cooperation once again, and the United States state british. nuclear programmes have resumed. During the Cold War, Britain's nuclear deterrent came from nuclear-weapon submarines and aircraft. Resolution-class ballistic missile submarines armed with the U.S.-made Polaris missile provided a maritime deterrent, while aircraft such as the Avro Vulcan, SEPECAT Jaguar, Panavia Tornado and several other Royal Air Force attack aircraft carrying WE.177 gravity bombs provided an aerial deterrent. France became the fourth nation to possess nuclear weapons on February 13, 1960, when the atomic bomb Gerboise Bleue exploded in Algeria,[25] and then another colony of French [officially part of metropolitan France.] France began making plans for a nuclear weapons program shortly after World War II, but the program did not really begin until the late 1950s. Eight years later, France conducted its first thermonuclear test over Fangatuafa Atoll. It had a yield of 2.6 megatonnes. [26] This bomb heavily contaminated the atoll with radiation for six years, making it off-limits to humans. During the Cold War, the French nuclear deterrent centered around the Strike Force, a nuclear triad consisting of Dassault Mirage IV bombers carrying nuclear weapons such as the AN-22 gravitational bomb and the ASMP state-ball attack missile, the Pluto and Hades ballistic missiles, and the Redoutable-class submarine armed with strategic nuclear missiles. The People's Republic of China became the fifth nuclear power on October 16, 1964 when it detonated a 25-kiloton uranium-235 bomb in a test code called 596[27] at Lop Nur. In the late 1950s, 1950s, began to develop nuclear weapons with substantial Soviet assistance in exchange for uranium ore. However, the Sino-Soviet ideological division in the late 1950s developed problems between China and the Soviet Union. This prompted the Soviets to stop helping China develop nuclear weapons. However, China continued to develop nuclear weapons without Soviet support and made remarkable progress in the 1960s. [28] Due to Soviet/Chinese tensions, the Chinese may have used nuclear weapons against the United States or the Soviet Union in the event of a nuclear war between the United States and the Soviet Union. [citation needed] During the Cold War, China's nuclear deterrent consisted of gravitational bombs carried aboard H-6 bombers, missile systems such as the DF-2, DF-3 and DF-4[29] and, in the latter stages of the Cold War, the 092 ballistic missile submarine. On June 14, 1967, China detonated its first hydrogen bomb. Cuban Missile Crisis Main Article: Cuban Missile Crisis More than 100 U.S.-built missiles with the capability to strike Moscow with nuclear warheads were deployed to Italy and Turkey in 1961 On January 1, 1959, the Cuban government fell to the United States of communist revolutionaries, propelling Fidel Castro to power. The Soviet Union supported and praised Castro and his resistance, and the new government was recognized by the Soviet government on January 10. When the United States began boycotting Cuban sugar, the Soviet Union began buying large quantities to support the Cuban economy in exchange for fuel and eventually placing nuclear ballistic missiles on Cuban soil. These missiles would be able to reach the United States very quickly. On October 14, 1962, an American spy plane discovered these nuclear missile sites under construction in Cuba. President Kennedy immediately convened a series of meetings for a small group of senior officials to discuss the crisis. The group was divided between a militaristic and diplomatic solution. President Kennedy ordered a naval blockade around Cuba and all military forces at DEFCON 3. As tensions increased, Kennedy finally ordered the U.S. military to defcon 2. It was the closest the world was to a nuclear war. While the U.S. military had received the order of DEFCON 2, the conclusion of a nuclear war was still a long way off. The theory of mutually assured destruction seems to put entry into nuclear war an unlikely possibility. While the public viewed the Cuban missile crisis as a period of near-mass destruction, U.S. and Soviet Union were working behind public view to reach a peaceful conclusion. Prime Minister Khrushchev wrote to President Kennedy in a telegram dated October 26, 1962, saying, So if there is no intention to tighten that knot and therefore condemn the world to the catastrophe of thermonuclear war, then not only do we relax the forces pulling on the end of the rope, let us take steps to untie that. This. It is apparently clear that both men wanted to avoid nuclear war because of the mutually assured destruction that leads to the question of how close the world was to a nuclear war. Finally, on 28 October, through numerous discussions between American and Soviet officials, Khrushchev announced that the Soviet Union would withdraw all missiles from Cuba. Shortly thereafter, the United States secretly withdrew all of its nuclear missiles from Turkey, threatening the Soviets. The U.S. withdrawal of its Jupiter missiles from Turkey was kept private for decades afterwards, prompting negotiations between the two nations to appear to the world as a major U.S. victory. This eventually led to the downfall of Prime Minister Khrushchev. Relaxation Main Article: Relaxation U.S. President Richard Nixon and Soviet Secretary General Leonid Brezhnev, 1973 In the 1970s, with the Cold War entering its 30th year without direct conflict between the superpowers, the United States and the Soviet Union entered a period of reduced conflict, during which the two powers engaged in trade and trade between them. This period was known as relaxation. This period included the negotiation of a number of arms control agreements, construction with the Nuclear-Test Ban Treaty in the 1950s, but with important new treaties negotiated in the 1970s. These treaties have been only partially successful. Although both states continued to possess a large number of nuclear weapons and to seek more efficient technology, the growth in the number of warheads was initially limited, and later with START I, reversed. Treaty In 1958, the United States and the Soviet Union agreed to unofficially suspend nuclear tests. However, this agreement ended when the Soviets resumed testing in 1961, followed by a series of nuclear tests conducted by the United States. These events led to many political spillovers, as well as the Cuban missile crisis in 1962. Something had to be done to ease the great tensions between the two countries, so that on 10 October 1963, the Treaty on the Limited Prohibition of Nuclear Tests (TLT) was signed. [32] It was an agreement between the United States, the Soviet Union and the United Kingdom, which severely limited nuclear testing. All atmospheric, submarine and outer-air nuclear tests were stopped, but testing was still allowed underground. Another 113 countries have signed the treaty since 1963. SALT I and SALT II limited the size of state arsenals. The prohibition of nuclear tests, anti-ballistic missile systems and weapons in space has all attempted to expansion of the arms race through the Partial Nuclear Test Ban Treaty. In November 1969, talks on strategic arms control (SALT) began. This is mainly due to the economic impact that nuclear tests and production have had on the U.S. and Soviet economies. The SALT I Treaty, signed in May 1972, resulted in agreement on two important documents. These included the Anti-Ballistic Missile Treaty (ABM Treaty) and the Interim Agreement on the Limitation of Arm. [33] The ABM Treaty limited each country to two ABM sites, while the Interim Agreement froze the number of intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs) at the current level for five years. This treaty has significantly reduced nuclear costs as well as the risk of nuclear war. However, SALT I did not address how many nuclear warheads could be placed on a missile. New technology, known as the Multiple Target Reentry Vehicle (MIRV), has allowed single missiles to contain and launch multiple nuclear missiles at targets while they were in flight. Over the next 10 years, the Soviet Union and the United States added 12,000 nuclear warheads to their already built arsenals. Throughout the 1970s, the Soviet Union and the United States replaced old missiles and warheads with newer, more powerful and more efficient missiles and warheads. On 18 June 1979, the SALT II Treaty was signed in Vienna. This treaty limited nuclear arsenals and technology on both sides. However, in light of the Soviet Union's invasion of Afghanistan in December 1979, the United States Senate never ratified the SALT II Treaty. This put an end to the treaty negotiations and the era of détente. [34] In 1991, the Strategic Arms Reduction Treaty (START) was negotiated between the United States and the Soviet Union to reduce the number and limit the ability to limit strategic offensive weapons. The START II, START III and New START treaties eventually succeeded. Reagan and the Strategic Defense Initiative Main article: Strategic Defense Initiative Protest in Bonn, West Germany against the nuclear arms race between the U.S./NATO and the Soviet Union, 1981 Despite the détente, both sides continued to develop and introduce more accurate weapons and weapons with more warheads (MIRVs). Ronald Reagan's presidency has proposed a programmed missile defense labeled the Strategic Defense Initiative, a space-based anti-ballistic missile system ridiculed as Star Wars by its critics; At the same time, missile defence was also being researched in the Soviet Union. However, the IDS would require technology that has not yet been developed or even studied. This system offered space and ground laser combat stations. It would also need sensors on the ground, in the air and in space using radar, optical and infrared technology to detect incoming missiles. [35] Simultaneously, however, Reagan began negotiations with Mikhail Gorbachev that eventually resulted in the Strategic Arms Reduction Treaty on Reducing Nuclear Stockpiles. Due to the high costs and complex technology for its time, the scope of the SDI project reduced defense against a massive attack to a defense system against limited attacks, the transition to the Ballistic Missile Defense Organization. The End of the Cold War Main Article: Cold War (1985-1991) Soviet Secretary-General Gorbachev and US President Reagan signing the INF Treaty, 1987 In the mid-1980s, Relations improved considerably, Mikhail Gorbachev took control of the Soviet Union after the death of several former Soviet leaders, and heralded a new era of perestroika and glasnost, meaning restructuring and openness respectively. Gorbachev proposed a 50% reduction in nuclear weapons for the United States and the Soviet Union at the meeting in Reykjavik, Iceland, in October 1986. However, the proposal was rejected due to disagreements over Reagan's IDS. Instead, the Intermediate Nuclear Forces Treaty (INF) was signed on 8 December 1987 in Washington, D.C., which eliminated a whole class of nuclear weapons. As a result of dramatic economic and social changes within the Soviet Union, many of its constituent republics began to declare independence. With the wave of revolutions sweeping through Eastern Europe, the Soviet Union was unable to impose its will on its satellite states and its sphere of influence was slowly diminishing. On 16 December 1991, all republics declared independence from the Union. Soviet leader Mikhail Gorbachev resigned as president on 25 December and the Soviet Union was declared non-existent the next day. After the Cold War The examples and perspective of this article may not include all significant points of view. Please improve the article or discuss the issue. (December 2016) (Find out how and when to delete this template message) Main Articles: Effects of the Cold War and the Second Cold War Dmitry Medvedev with Barack Obama after the signing of the new START treaty in Prague, 2010 With the end of the Cold War, the United States and Russia reduced their spending on nuclear weapons. [citation needed] Fewer new systems have been developed and both arsenals have been reduced; although both countries maintain large stockpiles of nuclear missiles. In the United States, inventory stewardship programs have taken on the role of maintaining the aging arsenal. After the end of the Cold War, large stockpiles of weapons and nuclear facilities remained. Some are recycled, dismantled or recovered as valuable substances. [citation needed] As a result, a large amount of resources and money that was once spent on the development of nuclear weapons in the Soviet Union was then spent to repair the environmental damage produced by the nuclear arms race, and almost all the former production sites are now major clean-up sites. [citation needed] In the United States, the Hanford, Washington, plutonium production plant and the Rocky Flats, Colorado plutonium well manufacturing plant are among the most [citation needed] Military policies and strategies have been modified to reflect increasing intervals without major confrontation. In 1995, U.S. nuclear proliferation policy and strategy was described in the Essentials of Post-Cold War Deterrence, produced by the Policy Subcommittee of the Strategic Advisory Group (SAG) of U.S. Strategic Command. On April 8, 2010, the U.S. President Obama and Russian President Dmitry Medvedev signed the new START treaty, which called for a 50 percent reduction in strategic nuclear missile launchers and a reduction in deployed nuclear warheads. [38] The U.S. Senate ratified the treaty in December 2010 by a three-quarter majority. Large stock with global range (dark blue), smaller stock with global range (medium blue), small stock with regional range (light blue). On December 13, 2001, George W. Bush notified Russia of the United States' withdrawal from the Anti-Ballistic Missile Treaty. This led to the possible creation of the U.S. Missile Defense Agency. Russian President Vladimir Putin reacted to the withdrawal by ordering an accumulation of Russia's nuclear capabilities, intended to counterbalance US capabilities. [40] On December 22, 2016, U.S. President Donald Trump proclaimed in a tweet that the United States must significantly strengthen and expand its nuclear capability until the world feels at its senses regarding nuclear weapons,[40] effectively challenging the world to re-engage in a race for nuclear domination. The next day, Mr. Trump reiterated his position to MSNBC Morning host Mika Mika Brzezinski, saying, Let this be an arms race. We will surpass them with each passing and surpass them all. In October 2018, former Soviet leader Mikhail Gorbachev declared that the US withdrawal from the INf nuclear treaty was not the work of a great spirit and that a new arms race has been announced. [42] In early 2019, more than 90% of the world's 13,865 nuclear weapons belonged to Russia and the United States. [44] According to the Pentagon's Doctrine for Joint Nuclear Operations of June 2019, the integration of employment in nuclear weapons with conventional and special operations forces is essential to the success of any mission or operation. [46] [47] India and Pakistan More information: India and weapons of mass destruction and Pakistan and weapons of mass destruction In South Asia, India and Pakistan have also engaged in a technological nuclear arms race since the 1970s. Nuclear competition began in 1974 with India detonating the device, codenamed Smiling Buddha, in the Pokhran region of Rajasthan state. [48] The Indian government called the test a peaceful nuclear explosion, but independent sources said it was actually part of India's secret accelerated nuclear program. [49] This test has generated a great deal of concern and doubt in Pakistan, with the fear that it would be at the mercy of its longtime rival. Pakistan had its own secret atomic bomb projects in 1972 that have span used over many years since India's first weapon exploded. After the 1974 test, Pakistan's atomic bomb program took a high speed and accelerated its atomic project to successfully build its own atomic weapons program. In the last decades of the 20th century, India and Pakistan began to develop nuclear rockets and nuclear military technologies. Finally, by India, under the government of Atal Bihari Vajpayee, detonated five other nuclear weapons. Domestic pressure in Pakistan began to wane and Prime Minister Nawaz Sharif ordered the test, detonated 6 nuclear weapons of war (Chagai-I and Chagai-II) in a tit-for-tat manner and act as a deterrent. Defence Against Nuclear Attacks Main article: Missile Defence Since the beginning of the Cold War, the United States, Russia and other countries have all attempted to develop anti-ballistic missiles. The United States developed the LIM-49 Nike Zeus in the 1950s to destroy incoming ICBMs. Russia has also developed ABM missiles in the form of the A-35 anti-ballistic missile system and the subsequent A-135 anti-ballistic missile system. Chinese state media also reported testing anti-ballistic missiles,[50] although specific information is not public. India successfully developed its ballistic missile shield as part of the Indian Ballistic Missile Defence Program with the Prithvi Air Defense (PAD) test firing program and has also developed an Akash Air Defense (AAD) cruise missile defence[51] to intercept low-flying missiles making India one of five missile-fighting countries. [52] See also Nuclear War Nuclear Holocaust Nuclear Terrorism Essentials of the post-Cold War Deterrence Theory Nuclear Disarmament Nuclear Weapons Historic Nuclear Weapons Stocks and Nuclear Tests by Country Space Race Brinkmanship (Cold War) References - Key Issues: Nuclear Weapons: History: Pre Cold War: Manhattan Project.[52] nuclearfiles.org. - The Soviet nuclear weapons program. nuclearweaponarchive.org. - The Potsdam Conference between Allied Forces Archived 2007-10-24 at the wayback machine - a b Atomic Bomb: Decision - Truman Tells Stalin, July 24, 1945. dannen.com. a b Potsdam Note (Animation) Archived 2007-11-16 at the Wayback Machine - Klaus Fuchs: Atom Bomb Spy. Mike Fisk, Director of Information, Los Alamos National Laboratory, operated the national security of Los Alamos, LLC, for the U.S. Department of Energy. Our story. lanl.gov.CS1 many: multiple names: list of authors (link) - Atomic Espionage. The beginnings of the Cold War. Recovered on November 24, 2012. 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