



Issue: regulating nuclear tests

Committee: disarmament

Chair(s): Nina Fronius, Mellina Boukhalfa

---



*"Every man, woman and child lives under a nuclear sword of Damocles, hanging by the slenderest of threads, capable of being cut at any moment by accident or miscalculation or by madness. The weapons of war must be abolished before they abolish us. The logical place*

firstname NAME (of the chair who wrote this) - ... committee - 2022

*to begin is a treaty assuring the end of nuclear tests of all kinds." - President Kennedy,*

**September 25, 1961 United Nations General Assembly, New York.**

## Introduction

Nuclear weapons tests are experiments carried out to determine a nuclear weapon's effectiveness, yield and explosive capability. Testing nuclear weapons offers practical information about how the weapons function, how detonations are affected by different conditions, and how personnel, structures, and equipment are affected when subjected to nuclear explosions. The first nuclear tests were carried out in 1945 by the United States and the Soviet Union, the United Kingdom, France and China followed over the next 20 years.

The 2000 Report of the United Nations Scientific Committee on the Effects of Atomic Radiation to the General Assembly states that: "The main man-made contribution to the exposure of the world's population [to radiation] has come from the testing of nuclear weapons in the atmosphere, from 1945 to 1980." Until 1950, the health impacts of worldwide dispersion of radioactivity from nuclear testing were given very little consideration and it was only in 1963 after public protests that the Limited Test Ban Treaty was established; this treaty was not truly complete and only the United States, the Soviet Union and the United Kingdom signed it. Thirty-three years later, the United Nations General Assembly adopted the Comprehensive Nuclear Test Ban Treaty, it has been signed by 185 countries, and ratified by 170 of them, including three nuclear weapons-holding states: France, Russia and the United Kingdom. It prohibited all nuclear test explosions including those conducted underground.

firstname NAME (of the chair who wrote this) - ... committee - 2022

## Definitions of key terms

Nuclear weapon: a bomb or missile that uses nuclear energy to cause an explosion.

Nuclear radiations: a form of energy that comes from a nuclear reaction and that can cause health effects such as cardiovascular disease as well as cancer.

Nuclear-weapon states: According to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), nuclear-weapon states are defined as those that manufactured and exploded a nuclear weapon or another nuclear explosive device before 1 January 1967. These are, in order of acquisition of nuclear weapons, the United States, Russia, the United Kingdom, France and China. However, since then, other countries have acquired them: India, Pakistan and North Korea.

Warhead: the part of a missile that explodes.

## General overview

### **How Many:**

In the five decades between that fateful day in 1945 and the opening for signature of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) in 1996, over 2,000 nuclear tests were carried out all over the world.

- The United States conducted 1,032 tests between 1945 and 1992.
- The Soviet Union carried out 715 tests between 1949 and 1990.
- The United Kingdom carried out 45 tests between 1952 and 1991.
- France carried out 210 tests between 1960 and 1996.
- China carried out 45 tests between 1964 and 1996. India carried out 1 test in 1974.

Since the CTBT was opened for signature in September 1996, 10 nuclear tests have been conducted:

- India conducted two tests in 1998.
- Pakistan conducted two tests in 1998.
- The Democratic People's Republic of Korea conducted nuclear tests in 2006, 2009, 2013, 2016, and 2017.

### **Types of Nuclear Tests:**

Nuclear explosions have been detonated in all environments: above ground, underground and underwater. Bombs have been detonated on top of towers, onboard barges, suspended from balloons, on the earth's surface, underwater to depths of 600m, underground to depths of more than 2,400m and in horizontal tunnels. Test bombs have been dropped by aircraft and fired by rockets up to 200 miles into the atmosphere.

## **Atmospheric testing:**

Atmospheric testing refers to explosions which take place in or above the atmosphere.

All told, of the over 2,000 nuclear explosions detonated worldwide between 1945 and 1996, 25 % or over 500 bombs were exploded in the atmosphere: over 200 by the United States, over 200 by the Soviet Union, about 20 by Britain, about 50 by France and over 20 by China.

International concern over radioactive fallout resulting from atmospheric tests escalated in the mid 1950s. Atmospheric testing was banned by the 1963 Partial Test Ban Treaty. Negotiations had largely responded to the international community's grave concern over the radioactive fallout resulting from atmospheric tests. The United States, the Soviet Union and the United Kingdom became Parties to the Treaty; France and China did not. France conducted its last atmospheric test in 1974, China in 1980.

## **Underwater testing:**

Underwater testing refers to explosions which take place underwater or close to the surface of the water. Relatively few underwater tests have been conducted. The first underwater nuclear test – Operation Crossroads – was conducted by the United States in 1946 at its Pacific Proving Grounds in the Marshall Islands with the purpose of evaluating the effects of nuclear weapons used against naval vessels.

Underwater nuclear explosions close to the surface can disperse large amounts of radioactive water and steam, contaminating nearby ships, structures and individuals. Underwater nuclear testing was banned by the 1963 Partial Test Ban Treaty.

### **Underground testing:**

Underground testing means that nuclear explosions are detonated at varying depths under the surface of the earth. These comprised the majority (i.e. about 75%) of all nuclear explosions detonated during the Cold War (1945–1989); that is, over 800 of all tests conducted by the United States and nearly 500 of all tests conducted by the Soviet Union.

When the explosion is fully contained, underground nuclear testing emits negligible fallout compared to atmospheric testing. However, if underground nuclear tests "vent" to the surface, they can produce considerable radioactive debris. Underground testing is usually evident through seismic activity related to the yield of the nuclear device.

Underground nuclear testing was banned by the 1996 Comprehensive Nuclear-Test-Ban Treaty (CTBT) that bans all nuclear explosions on Earth.

### **Health issues related to radiation:**

All people who were born since 1951 have received some exposure to radiation from weapons testing-related fallout. The individual dose from fallout will depend on a number

of factors such as where you lived when the testing occurred, how much time you spent outdoors, the weather...

### **How people were exposed:**

Exposure to radioactive material from fallout may occur in several ways:

- From direct skin contact with fallout particles in the air (external)
- From fallout particles that fell on the ground and that later come in contact with the skin (external)
- From eating plants, milk, or meat that had radioactive fallout on or in it (internal)
- From breathing in radioactive material in the air (internal)

### **What effects:**

Some people may have an increased risk of cancer from this exposure- especially if they were exposed during childhood, in particular, thyroid cancer which can develop years later. These fallout can also affect a person's bone marrow and lead to an increased risk for leukemia.

However, all studies have shown the risk to be very small. Scientists continue to study the risks from exposure to these atoms and others coming from these fallouts.

## Major actors

As a weapon of mass destruction, nuclear warheads are part of the defense arsenal of some countries in the world. There were approximately 12,705 nuclear warheads worldwide as of January 2022 and almost 90 percent of them belong to two countries: **the United States and Russia**. Even though the number of nuclear weapons worldwide has been decreasing since the Cold War, still the same two countries possess the majority of them.

### **Countries possessing nuclear weapons :**

- **Russia** is the country that has the most warheads in their arsenal, 5,977 to be exact. Russia is a signatory of the Limited Test Ban Treaty (1963) and the Comprehensive Nuclear-Test Ban Treaty (1996).

- **USA** has 5,428 warheads and is the country that has carried out the most nuclear tests. It is a signatory of the Limited Test Ban Treaty (1963) and the Comprehensive Nuclear-Test Ban Treaty (1996) but has not ratified it; it is one of the states that need to take further action for the treaty to enter into force.

- **China** has 350 warheads. China signed the Comprehensive Nuclear-Test Ban Treaty (1996) but has not ratified it. It is one of the states that need to take further action for the treaty to enter into force.

- **France** owns 290 warheads, and is a signatory of the Comprehensive Nuclear-Test Ban Treaty (1996).



- **the United Kingdom** has 225 warheads, is a signatory of the Limited Test Ban Treaty (1963) and the Comprehensive Nuclear-Test Ban Treaty (1996).

- **Pakistan** owns 165 warheads and is not a signatory of the Comprehensive Nuclear-Test Ban treaty (1996), it is one of the states that need to take further action for the treaty to enter into force.

- **India** has 160 warheads and is not a signatory of the Comprehensive Nuclear-Test Ban treaty (1996), it is one of the states that need to take further action for the treaty to enter into force.

- **Israel** has 90 warheads and has signed the Comprehensive Nuclear-Test Ban treaty (1996), it is one of the states that need to take further action for the treaty to enter into force.

- **North Korea** owns 20 warheads (not official) and is not a signatory of the Comprehensive Nuclear-Test Ban treaty (1996), it is one of the states that need to take further action for the treaty to enter into force.

## Questions to consider & reflect on

- Does my country have nuclear weapons?
- Is my country looking for possessing nuclear weapons?
- Did my country ever test a nuclear weapon?
- Was my country ever exposed to radiation?
- Did my country sign/ratified the Comprehensive Nuclear Test Ban Treaty?
- What are the consequences of nuclear tests?
- What is the opinion of the government in place regarding the issue?

## Appendix

<https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.cambridge.org/core/journals/american-journal-of-international-law/article/nuclear-test-ban-treaty-and-international-law/2447239FEC86F12779251841629D1912%23:~:text=The%20Test%20Ban%20Treaty%20and%20International%20Law,The%20Test%20Ban%20Treaty%20and%20International%20Law>

firstname NAME (of the chair who wrote this) - ... committee - 2022

[2520Treaty%2520of,the%2520testing%2520state%2520is%2520possible.&ved=2ahUKEwjLyq6i68P5AhUW9IUKHftvD8cQFnoECA8QBQ&usg=AOvVaw0cMO-N6u0eXN4v6qORf5NL](https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.icanw.org/nuclear_tests&ved=2ahUKEwjLyq6i68P5AhUW9IUKHftvD8cQFnoECA8QBQ&usg=AOvVaw0cMO-N6u0eXN4v6qORf5NL)

[https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.icanw.org/nuclear\\_tests&ved=2ahUKEwjLyq6i68P5AhUW9IUKHftvD8cQFnoECAcQBQ&usg=AOvVaw0thPbwrtdTZkaXBHdPMPIR](https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.icanw.org/nuclear_tests&ved=2ahUKEwjLyq6i68P5AhUW9IUKHftvD8cQFnoECAcQBQ&usg=AOvVaw0thPbwrtdTZkaXBHdPMPIR)

[https://www.google.com/url?sa=t&source=web&rct=j&url=https://en.m.wikipedia.org/wiki/Partial\\_Nuclear\\_Test\\_Ban\\_Treaty&ved=2ahUKEwjLyq6i68P5AhUW9IUKHftvD8cQFnoECA4QBQ&usg=AOvVaw0LMmscDz8zmHcB4K1g2g9W](https://www.google.com/url?sa=t&source=web&rct=j&url=https://en.m.wikipedia.org/wiki/Partial_Nuclear_Test_Ban_Treaty&ved=2ahUKEwjLyq6i68P5AhUW9IUKHftvD8cQFnoECA4QBQ&usg=AOvVaw0LMmscDz8zmHcB4K1g2g9W)

[https://www.google.com/url?sa=t&source=web&rct=j&url=https://en.m.wikipedia.org/wiki/Nuclear\\_weapons\\_testing&ved=2ahUKEwjLyq6i68P5AhUW9IUKHftvD8cQFnoECDIQAQ&usg=AOvVaw2v3noljl3O3fO8dEfGF3xZ](https://www.google.com/url?sa=t&source=web&rct=j&url=https://en.m.wikipedia.org/wiki/Nuclear_weapons_testing&ved=2ahUKEwjLyq6i68P5AhUW9IUKHftvD8cQFnoECDIQAQ&usg=AOvVaw2v3noljl3O3fO8dEfGF3xZ)

<https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.jfklibrary.org/learn/about-jfk/jfk-in-history/nuclear-test-ban-treaty&ved=2ahUKEwjLyq6i68P5AhUW9IUKHftvD8cQFnoECCYQAQ&usg=AOvVaw1lxN6l7NfCCXmCGwAi5lpG>

<https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.epa.gov/radtown/radioactive-fallout-nuclear-weapons-testing&ved=2ahUKEwjLyq6i68P5AhUW9IUKHftvD8cQFnoECCUQAQ&usg=AOvVaw1B0tA81p0beUJCvXqYxhcl>

## Bibliography

“Wikipedia, Nuclear weapons testing, definition of nuclear tests.”

[https://en.m.wikipedia.org/wiki/Nuclear\\_weapons\\_testing](https://en.m.wikipedia.org/wiki/Nuclear_weapons_testing)

“CTBTO preparatory commission, general overview of the effects of nuclear testing.”

<https://www.ctbto.org/nuclear-testing/the-effects-of-nuclear-testing/general-overview-of-the-effects-of-nuclear-testing/#:~:text=Nuclear%20weapons%20have%20been%20tested,and%20over%20200%20metres%20underground.>

“United Nations, Types of tests and how many”

<https://www.un.org/en/observances/end-nuclear-tests-day/history>

“statista, number of nuclear warheads per state”

<https://www.statista.com/statistics/264435/number-of-nuclear-warheads-worldwide/>

“Center for Disease Control and Prevention, Radioactive fallout from Global Weapons Testing”

[https://www.cdc.gov/nceh/radiation/fallout/rf-gwt\\_home.htm](https://www.cdc.gov/nceh/radiation/fallout/rf-gwt_home.htm)

“CTBTO preparatory commission, country profiles”

<https://www.ctbto.org/the-treaty/country-profiles/?country=130&cHash=bb58d26ef65b87c6251f4399cf95726a>