

The Limited Test Ban Treaty (LTBT)

[The Limited Test Ban Treaty \(LTBT\)](#) (also known as the Partial Test Ban Treaty) is a multilateral treaty banning explosive nuclear testing or “other nuclear explosions” in the atmosphere, outer space, and underwater. The treaty only permits underground nuclear testing if the test does not cause radioactive debris to be present outside the jurisdiction of the country that conducted the test. Signed by the United States, United Kingdom, and Soviet Union in Moscow on August 5, 1963, the treaty went into effect on October 10 of the same year. Today, [125 countries](#) are party to the treaty.

Official negotiations for a test ban treaty began in 1955, with a meeting between the United States, United Kingdom, Canada, France, and the Soviet Union. The countries disagreed about the necessity and form of compliance verification measures for underground testing. Specifically, the Soviet Union objected to on-site inspections. As a result of these disagreements, the initial negotiations ended without a treaty.

In October of 1962, the Soviet Union and the United States came extremely close to a full-blown nuclear war when the Soviet Union deployed strategic missiles in Cuba. The conflict was successfully avoided, but President Kennedy and Premier Khrushchev realized the pressing importance of slowing the nuclear arms race. The two world leaders began exchanging [private letters](#) discussing the idea of a test ban treaty. Three-party negotiations among the United States, the Soviet Union, and United Kingdom resumed in July of 1963. The treaty was negotiated in 10 days.

Although the treaty did not eliminate all explosive nuclear testing, it [pledged](#) to work towards a complete test ban and put an end to the arms race. This treaty laid the groundwork for efforts that would lead to the [Comprehensive Test Ban Treaty \(CTBT\)](#).

What the Treaty Does

- Prohibits explosive nuclear weapons testing, or any other nuclear explosion, in the atmosphere, outer space, and underwater.
- Allows underground tests as long as radioactive debris is not present outside the territorial limits of the country that conducted the test.

Why the Treaty Matters

Limits Nuclear Fallout

Confining nuclear testing to exclusively underground tests significantly limited the amount of radioactive material propelled into the atmosphere. Exposure to radioactive fallout has a wide-range of dangerous effects on the environment, animals, and humans. During this time period, there was a growing concern about the health-related effects of nuclear tests. A popular example of widespread radioactive contamination was the [“Baby Tooth Survey”](#) research findings showing a marked increase in Strontium-90 (a radioactive isotope of strontium) in children born after large-scale atomic testing. The treaty also significantly improved the exposure of “downwinders” to radioactive fallout in Arizona, Idaho, and Utah near U.S. nuclear sites. The downwinders suffered numerous health effects due to nuclear testing, but after the treaty went into force the levels of nuclear fallout detected [began to approach natural levels](#).

Established a Precedent for Future Agreements Restricting Nuclear Testing

The negotiators of the LTBT were not able to restrict underground nuclear testing due to [disagreements](#) regarding the number of on-site inspections, and reliability of automatic seismic stations. Nor could they

establish a mechanism for verification purposes. Instead all sides agreed that their own existing [verification systems](#) could monitor a ban in the atmosphere, outer space, and underwater.

In the years that followed, scientists continued to develop more advanced verification tools and equipment for identifying nuclear explosive testing. Those advances helped negotiators create the [Threshold Ban Treaty \(TTBT\)](#), and the [Comprehensive Test Ban Treaty \(CTBT\)](#). The CTBT has not yet been ratified by several key countries, including the United States, and thus has not entered into force. The LTBT is still in effect today and is of unlimited duration.

Sources: U.S. Department of State, Nuclear Threat Initiative, Atomic Heritage Foundation, John F. Kennedy Presidential Library and Museum, Washington University School of Dental Medicine, The International Atomic Energy Commission, [Kennedy, Khrushchev, and the Test Ban](#) by Dr. Glenn Seaborg, Ploughshares Fund