

Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water

The test ban treaty of 1963 prohibits nuclear weapons tests "or any other nuclear explosion" in the atmosphere, in outer space, and under water. While not banning tests underground, the treaty does prohibit nuclear explosions in this environment if they cause "radioactive debris to be present outside the territorial limits of the State under whose jurisdiction or control" the explosions were conducted. In accepting limitations on testing, the nuclear powers accepted as a common goal "an end to the contamination of man's environment by radioactive substances."

Efforts to achieve a test ban agreement had extended over 8 years. They involved complex technical problems of verification and the difficulties of reconciling deep-seated differences in approach to arms control and security. The uneven progress of the negotiations reflected, moreover, contemporaneous fluctuations in East-West political relationships.

Prior to SALT, no arms control measure since World War II had enlisted so intensely the sustained interest of the international community. The United States in November 1952, and the Soviet Union in August of the following year, exploded their first hydrogen devices, and rising concern about radioactive fallout and the prospect of even more powerful explosions spurred efforts to halt testing. Succeeding events gave the dangers of fallout concrete and human meaning. In March 1954 the United States exploded an experimental thermonuclear device at Bikini atoll, expected to have the power of 8 million tons of TNT. The actual yield was almost double that predicted—about 15 megatons, and the area of dangerous fallout greatly exceeded original estimates. A Japanese fishing vessel, the *Lucky Dragon*, was accidentally contaminated, and its crew suffered from radiation sickness, as did the inhabitants of an atoll in the area. In another such accident, radioactive rain containing debris from a Soviet hydrogen bomb test fell on Japan.

As knowledge of the nature and effects of fallout increased, and as it became apparent that no region was untouched by radioactive debris, the issue of continued nuclear tests drew widened and intensified public attention. Apprehension was expressed about the possibility of a cumulative contamination of the environment and of resultant genetic damage.

Efforts to negotiate an international agreement to end nuclear tests began in the Subcommittee of Five (the United States, the United Kingdom, Canada, France, and the U.S.S.R.) of the U.N. Disarmament Commission in May 1955, when the Soviet Union included discontinuance of weapons tests in its proposals.

Public interest in the course of the negotiations was active and sustained. In individual statements and proposals, and in international meetings, governments pressed for discontinuance of nuclear tests. A dozen resolutions of the General Assembly addressed the issue, repeatedly urging conclusion of an agreement to ban tests under a system of international controls.

Test Ban and General Disarmament

The relation of a test ban to other aspects of disarmament was for a time a troubling issue. The initial Soviet proposal of a test ban on May 10, 1955, was part of a comprehensive plan to reduce conventional forces and armaments and to eliminate nuclear weapons. Later that year in the General Assembly, the U.S.S.R. advocated a separate test ban. The three Western powers, over the next 3 years, made discontinuance of tests contingent on progress in other measures of arms control, particularly a cut-off in the production of fissionable materials for weapons and safeguards against surprise attack, and insisted that a test ban could not be enforced "in the absence of more general control agreements."

In January 1959 the United States and the United Kingdom dropped the linkage between a test ban and other arms control agreements; France, however, did not. The French continued to maintain that until there was agreement on nuclear disarmament—including an end to weapons production, reconversion of stocks, and a ban on possession and use—French plans to conduct tests would go forward. The Soviet Union abruptly reversed its position in June 1961, when Premier Khrushchev declared during his meeting with President Kennedy in Vienna that the test-ban question must be linked with general and complete disarmament. The Soviet Union refused to modify this position until November, when it proposed a separate test ban with no controls whatever, pending agreement on general and complete disarmament.

Verification

The central and most persistent barrier to a treaty on cessation of tests, however, was the issue of verifying compliance, of agreeing to establish a system of controls and inspection—particularly with regard to underground explosions—that could guarantee against testing in secret. The Western powers were determined to assure that

no agreement would be liable to clandestine violation. In test-ban negotiations, as well as in other arms control efforts, they considered that it would be dangerous to their security to accept simple pledges without the means of knowing that they would be observed.

It was further believed that such pledges would mislead concerned world opinion with illusions of secure progress toward disarmament.

Writing to President Eisenhower on October 17, 1956, Premier Bulganin had stated the fundamental Soviet position. "Since any explosion of an atomic or hydrogen bomb cannot, in the present state of scientific knowledge, be produced without being recorded in other countries," he said, there could be an immediate agreement to prohibit tests without any provision for international control:

Would not the best guarantee against the violation of such an agreement be the mere fact that secret testing of nuclear weapons is impossible and that consequently a government undertaking the solemn obligation to stop making tests could not violate it without exposing itself to the entire world as the violator of an international agreement?

The western countries were not convinced that existing technology for detecting nuclear explosions was adequate to monitor compliance, or that the mere force of world opinion would provide assurance against violations. In his response, President Eisenhower stated that "to be effective, and not simply a mirage," disarmament plans required systems of inspection and control. And in a public statement a few days later, he said

A simple agreement to stop H-bomb tests cannot be regarded as automatically self-enforcing on the unverified assumption that such tests can instantly and surely be detected. It is true that tests of very large weapons would probably be detected when they occur. . . . It is, however, impossible—in my view of the vast Soviet land-mass that can screen future tests—to have positive assurance of such detection, except in the case of the largest weapons.

On June 14, 1957, the Soviet Union for the first time offered test ban proposals that included international control. The proposals were very general: establishment of an international supervisory commission and control posts, on the basis of reciprocity, on the territories of the three nuclear powers and in the Pacific Ocean area. The Western powers suggested that a group of experts work out the details of a control system, while the delegates considered a temporary test ban in relation to other disarmament measures.

The Soviet Union continued to press for an immediate suspension of tests, and the United States for agreement on a control system as a necessary accompanying measure. In March 1958 the Soviet Union announced that it was discontinuing all tests and appealed to the parliaments of other nuclear powers to take similar action. It added, however, that the Soviet Union would "naturally be free" to resume

testing if other nuclear powers did not stop their tests. Succeeding Bulganin as Premier, Nikita Khrushchev called on President Eisenhower to end tests. President Eisenhower rejected the proposal, stating that some tests could be conducted "under conditions of secrecy," and renewed the proposal for an experts' group to study control problems. After further summit correspondence and diplomatic exchange, Khrushchev agreed to a conference of experts. Meanwhile U.S. and British tests continued.

The Geneva Conference of Experts met in July and August 1958, attended by representatives from the United States, the United Kingdom, Canada, France, the U.S.S.R., Poland, Czechoslovakia, and Romania. They agreed on the technical characteristics of a control system to monitor a ban on tests in the atmosphere, under water, and underground. Their report proposed an elaborate network of 170-180 land control posts and 10 shipborne posts, as well as regular and special aircraft flights. It recognized that on-site inspections would be needed to determine whether some seismic events were caused by earthquakes or explosions.

The United States and Britain welcomed the experts' report and declared their willingness to negotiate an agreement for suspension of tests and the establishment of an international control system on the basis of the report. They were prepared to suspend tests for a year from the beginning of negotiations unless the U.S.S.R. resumed testing. The suspension could continue on a year-to-year basis, provided that the inspection system was installed and functioning, and "satisfactory progress" was being made on major arms-control measures. Premier Khrushchev's response was to attack the Americans and British for continuing their tests, and for linking the test ban to other matters; he announced that the Soviet Union was released from its self-imposed pledge. The U.S.S.R. resumed tests, and the series continued until November 3.

The negotiating powers refrained from testing for the next 3 years. The "moratorium" was marked by several public statements of intent, by the United States, the United Kingdom, and the Soviet Union, in varying degrees of specificity and with various caveats. At the end of December 1959, President Eisenhower announced that the United States would no longer consider itself bound by the "voluntary moratorium" but would give advance notice if it decided to resume testing. The Soviet Union, with dramatic effect, resumed testing in September of 1961. The United States resumed testing 2 weeks later.

Throughout the various conferences and exchanges on a test ban, the complexity of the central problem brought successive deadlocks, break-offs, and renewals of discussion, shifts in position, searches for compromise and new approaches, and for new techniques of

verifications, and successive suspensions and resumptions of tests. The United States continued to be unwilling to accept the Soviet basic proposition that a test ban could be agreed to and controls instituted subsequently, or to accept indefinite test suspensions that were tantamount to endorsing an uncontrolled prohibition. New data from American underground tests, moreover, had shown that techniques recommended earlier for distinguishing between explosions and earthquakes were less effective than had been believed and that a reliable control system to monitor seismic events that registered under 4.75 on the Richter scale required further research and confirmed the need for on-site inspections.

Among the salient points of disagreement on a control system were:

The Veto. The U.S.S.R. initially sought to have all substantive operations of the system subject to veto; the United States insisted that the fact-finding process of inspection, to be effective, must be as automatic as possible.

On-Site Inspections. The Soviet Union placed a limit on permitted inspections in its territory, refusing to allow more than three per year. The United States and the United Kingdom held that the number must be determined by scientific fact and detection capability. As new information became available, the United States eventually indicated that it could accept a minimum of seven, but the U.S.S.R. rejected this quota. There was disagreement, as well, over the size of the area to be inspected, the nationality and composition of inspection teams, and the criteria for identifying events that required inspection.

Control Posts. Although the United States and the United Kingdom had originally proposed that the control posts should be internationally owned and operated, they later agreed to national ownership and operation of the posts, as the U.S.S.R. insisted, with international monitoring and supervision.

There were unresolved differences about the number and location of posts and about the number and location of the automatic seismic observation stations ("black boxes") with which it was proposed to supplement them. The U.S.S.R. also claimed that national control posts and automatic observation devices made any international inspection unnecessary, a position that the United States and the United Kingdom were not willing to accept.

The Organization of the Control Commission. In March 1961 the Soviet Union recommended replacing the single administrator of the proposed Control Commission with a "troika," a tripartite administrative council, consisting of one neutral, one Western, and one Communist member (a proposal paralleling the Soviet effort the previous year to replace the U.N. Secretary General with a tripartite

commission). This three-headed administration would be able to function even in routine matters only by unanimous agreement, an arrangement that the Western powers argued was unworkable and would make the Control Commission helpless. The Soviet Union eventually abandoned this demand.

The effort to achieve a test ban, and to resolve the stubborn issues involved, had been pursued in a wide variety of channels. Successive General Assembly sessions had debated the issue. It had been a major item on the agenda of the U.N. Disarmament Commission and its Subcommittee of Five (later ten). The United States, the United Kingdom, and the Soviet Union had engaged in a long tripartite effort—The Conference on the Discontinuance of Nuclear Weapons Tests—in almost continuous session in Geneva from October 31, 1958, to January 29, 1962. Under its auspices three technical working groups of experts had investigated and reported on various aspects of control: one on high altitude tests, another on underground tests, the third on seismic research programs to improve detection capabilities.

After the three-power conference adjourned in January 1962, unable to complete the drafting of a treaty because of the Soviet Union's claim that national means of detection were adequate for all environments, the principal forum for negotiations became the newly formed Eighteen-Nation Disarmament Committee (ENDC), which began its meetings at Geneva under the aegis of the General Assembly in March 1962. On the U.S. side, overall direction of the negotiations was assumed by William C. Foster, first Director of the newly created U.S. Arms Control and Disarmament Agency. Soviet insistence that the West accept Premier Khrushchev's quota of three annual inspections, however, brought these talks to an impasse. The United States and the United Kingdom, in high-level correspondence with the Soviet Union, then sought to arrange three-power talks. Finally, on June 10, 1963, President Kennedy announced that agreement had been reached to hold three-power meetings on the test ban in Moscow. He also pledged that the United States would not be the first to resume tests in the atmosphere.

At this time a shift of Soviet interest to a ban that did not deal with underground tests emerged, although the Soviet Union had rejected an Anglo-American proposal for an agreement of this kind the year before. Premier Khrushchev disclosed this in a speech on July 2, 1963, when he called for an agreement outlawing tests in the atmosphere, in outer space, and under water—environments where both sides agreed their existing verification systems could adequately police a ban.

The three-power meetings began on July 15. The long years of discussion had clarified views and greatly reduced areas of

disagreement, and a treaty was negotiated within 10 days. It was initialed on July 25 and formally signed at Moscow on August 5, 1963, by U.S. Secretary of State Dean Rusk; the Foreign Minister of the U.S.S.R., Andrei Gromyko; and the Foreign Minister of the U.K., Lord Home. On September 24, after extensive hearings and almost 3 weeks of floor debate, the Senate consented to ratification of the treaty by a vote of 80 to 19. It was ratified by President Kennedy on October 7, 1963, and entered into force on October 10 when the three original signatories deposited their instruments of ratification.

The parties to the treaty undertake "not to carry out any nuclear weapon test explosion, or any other nuclear explosion," in the atmosphere, under water, or in outer space, or in any other environment if the explosion would cause radioactive debris to be present outside the borders of the state conducting the explosion. As explained by Acting Secretary of State Ball in a subsequent report to President Kennedy, "The phrase 'any other nuclear explosion' includes explosions for peaceful purposes. Such explosions are prohibited by the treaty because of the difficulty of differentiating between weapon test explosions and peaceful explosions without additional controls."

The treaty is of unlimited duration, with provisions for amendment or withdrawal. Article III opens the treaty to all states, and most of the countries of the world have now signed it (108 nations are parties, 15 nations have signed but not ratified it). The treaty has not been signed by France or by the People's Republic of China.

Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water

Signed at Moscow August 5, 1963

Ratification advised by U.S. Senate September 24, 1963

Ratified by U.S. President October 7, 1963

U.S. ratification deposited at Washington, London, and Moscow October 10, 1963

Proclaimed by U.S. President October 10, 1963

Entered into force October 10, 1963.

The Governments of the United States of America, the United Kingdom of Great Britain and Northern Ireland, and the Union of Soviet Socialist Republics, hereinafter referred to as the "Original Parties,"

Proclaiming as their principal aim the speediest possible achievement of an agreement on general and complete disarmament under strict international control in accordance with the objectives of the United Nations which would put an end to the armaments race and eliminate the incentive to the production and testing of all kinds of weapons, including nuclear weapons.

Seeking to achieve the discontinuance of all test explosions of nuclear weapons for all time, determined to continue negotiations to this end, and desiring to put an end to the contamination of man's environment by radioactive substances,

Have agreed as follows:

Article I

1. Each of the Parties to this Treaty undertakes to prohibit, to prevent, and not to carry out any nuclear weapon test explosion, or any other nuclear explosion, at any place under its jurisdiction or control:

(a) in the atmosphere; beyond its limits, including outer space; or under water, including territorial waters or high seas; or

(b) in any other environment if such explosion causes radioactive debris to be present outside the territorial limits of the State under whose jurisdiction or control such explosion is conducted. It is understood in this connection that the provisions of this subparagraph are without prejudice to the conclusion of a treaty resulting in the permanent banning of all nuclear test explosions, including all such explosions underground, the conclusion of which, as the Parties have stated in the Preamble to this Treaty, they seek to achieve.

2. Each of the Parties to this Treaty undertakes furthermore to refrain from causing, encouraging, or in any way participating in, the carrying out of any nuclear weapon test explosion, or any other nuclear explosion, anywhere which would take place in any of the environments described, or have the effect referred to, in paragraph 1 of this Article.

Article II

1. Any Party may propose amendments to this Treaty. The text of any proposed amendment shall be submitted to the Depositary Governments which shall circulate it to all Parties to this Treaty. Thereafter, if requested to do so by one-third or more of the

Parties, the Depositary Governments shall convene a conference, to which they shall invite all the Parties, to consider such amendment.

2. Any amendment to this Treaty must be approved by a majority of the votes of all the Parties to this Treaty, including the votes of all of the Original Parties. The amendment shall enter into force for all Parties upon the deposit of instruments of ratification by a majority of all the Parties, including the instruments of ratification of all of the Original Parties.

Article III

1. This Treaty shall be open to all States for signature. Any State which does not sign this Treaty before its entry into force in accordance with paragraph 3 of this Article may accede to it at any time.

2. This Treaty shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the Original Parties—the United States of America, the United Kingdom of Great Britain and Northern Ireland, and the Union of Soviet Socialist Republics—which are hereby designated the Depositary Governments.

3. This Treaty shall enter into force after its ratification by all the Original Parties and the deposit of their instruments of ratification.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification and accession to this Treaty, the date of its entry into force, and the date of receipt of any requests for conferences or other notices.

6. This Treaty shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article IV

This Treaty shall be of unlimited duration.

Each Party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all other Parties to the Treaty three months in advance.

Article V

This Treaty, of which the English and Russian texts are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Treaty shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

IN WITNESS WHEREOF the undersigned, duly authorized, have signed this Treaty.

DONE in triplicate at the city of Moscow the fifth day of August, one thousand nine hundred and sixty-three.

For the Government of
the United States of
America

For the Government of
the United Kingdom
of Great Britain and
Northern Ireland

For the Government of
the Union of Soviet
Socialist Republics

DEAN RUSK

HOME

A. GROMYKO

Limited Test Ban Treaty

Country	Date of Signature	Date of Deposit ¹ of Ratification	Date of Deposit ¹ of Accession
Afghanistan	8/8/63	3/12/64	
Algeria	8/14/63		
Argentina	8/8/63		
Australia	8/8/63	11/12/63	
Austria	9/11/63	7/17/64	
Bahamas, The			8/13/76
Belgium	8/8/63	3/1/66	
Benin	8/27/63	12/15/64	
Bhutan			6/8/78
Bolivia	8/8/63	8/4/65	
Botswana			1/5/68
Brazil	8/8/63	12/15/64	
Bulgaria	8/8/63	11/13/63	
Burma	8/14/63	11/15/63	
Burundi	10/4/63		
Byelorussian S.S.R. ²	10/8/63	12/16/63	
Cameroon	8/27/63		
Canada	8/8/63	1/28/64	
Cape Verde			10/24/79
Central African Republic			12/22/64
Chad	8/26/63	3/1/65	
Chile	8/8/63	10/6/65	
China (Taiwan)	8/23/63	5/18/64	
Colombia	8/16/63		
Costa Rica	8/9/63	7/10/67	
Cyprus	8/8/63	4/15/65	
Czechoslovakia	8/8/63	10/14/63	
Denmark	8/9/63	1/15/64	
Dominican Republic	9/16/63	6/3/64	
Ecuador	9/27/63	5/6/64	
Egypt	8/8/63	1/10/64	
El Salvador	8/21/63	12/3/64	
Ethiopia	8/9/63		
Fiji			7/18/72
Finland	8/8/63	1/9/64	
Gabon	9/10/63	2/20/64	
Gambia, The			4/27/65
German Democratic Republic	8/8/63	12/30/63	

See footnotes on page 290.

Country	Date of Signature	Date of Deposit ¹ of Ratification	Date of Deposit ¹ of Accession
Germany, Federal Republic of	8/19/63	12.1/64	
Ghana	8/8/63	11/27/63	
Greece	8/8/63	12/18/63	
Guatemala	9/23/63	1/6/64	
Haiti	10/9/63		
Honduras	8/8/63	10/2/64	
Hungary	8/8/63	10/21/63	
Iceland	8/12/63	4/29/64	
India	8/8/63	10/10/63	
Indonesia	8/23/63	1/20/64	
Iran	8/8/63	5/5/64	
Iraq	8/13/63	11/30/64	
Ireland	8/8/63	12/18/63	
Israel	8/8/63	1/15/64	
Italy	8/8/63	12/10/64	
Ivory Coast	9/5/63	2/5/65	
Jamaica	8/13/63		
Japan	8/14/63	6/15/64	
Jordan	8/12/63	5/29/64	
Kenya			6/10/65
Korea, Republic of	8/30/63	7/24/64	
Kuwait	8/20/63	5/20/65	
Laos	8/12/63	2/10/65	
Lebanon	8/12/63	5/14/65	
Liberia	8/8/63	5/19/64	
Libya	8/9/63	7/15/68	
Luxembourg	8/13/63	2/10/65	
Madagascar	9/23/63	3/15/65	
Malawi			11/26/64
Malaysia	8/8/63	7/15/64	
Mali	8/23/63		
Malta			11/25/64
Mauritania	9/13/63	4/6/64	
Mauritius			4/30/69
Mexico	8/8/63	12/27/63	
Mongolia	8/8/63	11/1/63	
Morocco	8/27/63	2/1/66	
Nepal	8/26/63	10/7/64	
Netherlands	8/9/63	9/14/64	
New Zealand	8/8/63	10/10/63	

See footnotes on page 290.

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Nicaragua	8/13/63	1/26/65	
Niger	9/24/63	7/3/64	
Nigeria	8/30/63	2/17/67	
Norway	8/9/63	11/21/63	
Pakistan	8/14/63		
Panama	9/20/63	2/24/66	
Papua New Guinea			11/13/80
Paraguay	8/15/63		
Peru	8/23/63	7/20/64	
Philippines	8/8/63	11/10/65	
Poland	8/8/63	10/14/63	
Portugal	10/9/63		
Romania	8/8/63	12/12/63	
Rwanda	9/19/63	12/27/63	
San Marino	9/17/63	7/3/64	
Senegal	9/20/63	5/6/64	
Sierra Leone	9/4/63	2/21/64	
Singapore			7/12/68
Somalia	8/19/63		
South Africa			10/10/63
Spain	8/13/63	12/17/64	
Sri Lanka	8/22/63	2/5/64	
Sudan	8/9/63	3/4/66	
Swaziland			5/29/69
Sweden	8/12/63	12/9/63	
Switzerland	8/26/63	1/16/64	
Syrian Arab Republic	8/13/63	6/1/64	
Tanzania	9/16/63	2/6/64	
Thailand	8/8/63	11/15/63	
Togo	9/18/63	12/7/64	
Tonga			7/7/71
Trinidad & Tobago	8/12/63	7/14/64	
Tunisia	8/8/63	5/26/65	
Turkey	8/9/63	7/8/65	
Uganda	8/29/63	3/24/64	
Ukrainian S.S.R. ²	10/8/63	12/30/63	
Union of Soviet Socialist Republics	8/5/63	10/10/63	
United Kingdom	8/5/63	10/10/63	
United States	8/5/63	10/10/63	
Upper Volta	8/30/63		
Uruguay	8/12/63	2/25/63	

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Venezuela	8/16/63	2/22/65	
Western Samoa	9/5/63	1/15/65	
Yemen Arab Republic (Sana)	8/13/63		
Yemen, People's Democratic Republic of (Aden)			6/1/79
Yugoslavia	8/8/63	1/15/64	
Zaire	8/8/63	10/28/63	
Zambia			1/11/65
Total	106	91	18

See footnotes on page 290.