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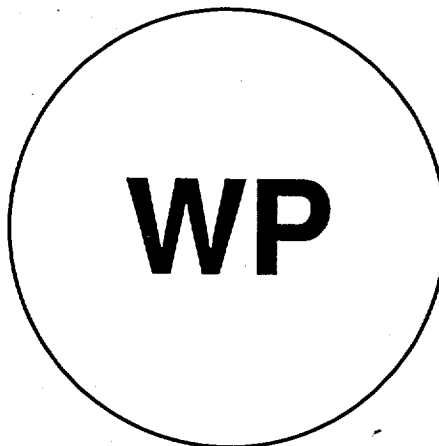
CONFERENCE ON DISARMAMENT

NUCLEAR TEST BAN

COMPREHENSIVE NUCLEAR TEST BAN TREATY (CTBT)

WORKING PAPERS (WP)

1994 SESSION



COMPILED AND EDITED BY:
NON-PROLIFERATION, ARMS CONTROL AND DISARMAMENT DIVISION OF THE
DEPARTMENT OF FOREIGN AFFAIRS AND INTERNATIONAL TRADE
OTTAWA, CANADA



JANUARY 1995

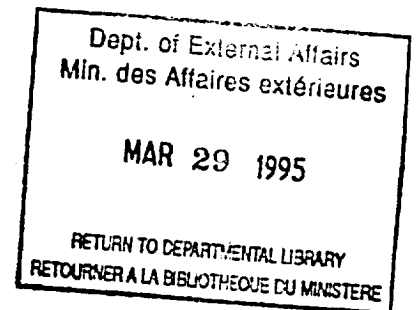
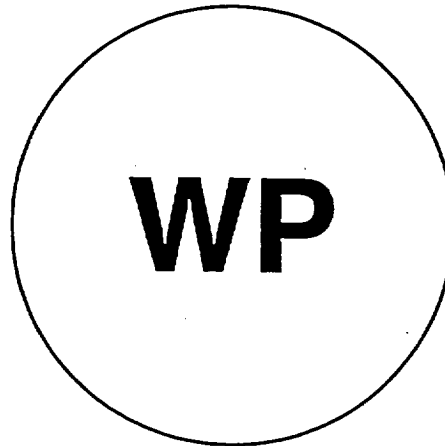
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48-211-473

WORKING PAPERS (WP)

PREFACE

This volume covers working papers relating to a Nuclear Test Ban submitted in plenary to the Conference on Disarmament during its 1994 session. It is compiled to facilitate discussions and research on this issue.

Note that the index is a chronological listing while the documents themselves are arranged in numerical order by CD number.

NUCLEAR TEST BAN
Comprehensive Nuclear Test Ban Treaty (CTBT)

Working Papers
Submitted to the Conference on Disarmament

1994

Chronological Index

Serial	Reference	Country	Description	Date
241.1	CD/1235 and Corr. 1 (ACEFS only)	Austra- lia	Letter dated 4 January 1994 from the Permanent Representative of Australia to the United Nations for Disarmament Matters addressed to the President of the Conference on Disarmament transmitting the text of a Working Paper entitled "Comprehensive Nuclear-Test-Ban Treaty: a draft structural outline"	5.1.94
242	CD/1236 [EXTRACT]	UN Sec- retary General	Letter dated 3 January 1994 from the Secretary-General of the United Nations addressed to the President of the Conference on Disarmament transmitting the resolutions on disarmament adopted by the General Assembly at its forty-eighth session	17.1.94
243	CD/1238	CD	Mandate for an Ad Hoc Committee under Agenda Item 1: "Nuclear Test Ban" (adopted at the 666th plenary meeting on 25 January 1994)	25.1.94
244	CD/1239	CD	Presidential statement on the agenda and organization of work for the 1994 session of the Conference on Disarmament at the 666th plenary meeting on 25 January 1994	25.1.94

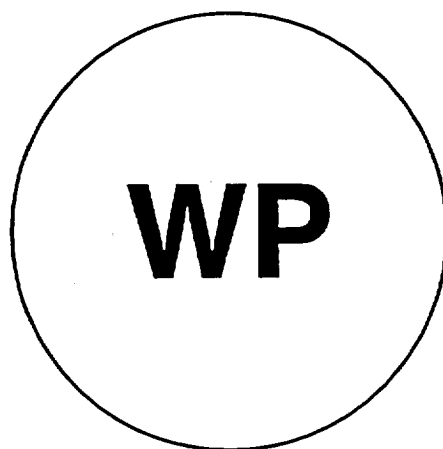
Serial	Reference	Country	Description	Date
245	CD/1240	Indonesia	Letter dated 26 January 1994 from the Permanent Representative of Indonesia addressed to the Secretary-General of the Conference on Disarmament transmitting the text of the Concluding Statement of the President of the Amendment Conference of the States Parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water at the Special (Informal) Meeting of the States Parties held in New York on 10 August 1993	27.1.94
246	CD/1241	Canada	Letter dated 1 February 1994 from the Deputy Permanent Representative of Canada addressed to the Deputy Secretary-General of the Conference on Disarmament transmitting four compendia of documents of the Conference on Disarmament to Support the negotiations on a Comprehensive Test-Ban Treaty	2.2.94
247	CD/1242 [EXTRACT]	USA/ Russian Federation	Letter dated 26 January 1994 from the Representative of the United States of America to the Conference and the Permanent Representative of the Russian Federation to the Conference addressed to the President of the Conference on Disarmament transmitting texts of certain documents issued in Moscow on 14 January 1994	4.2.94

Serial	Reference	Country	Description	Date
248	CD/1245 and Corr. 1	AHGSE	Progress Report to the Conference on Disarmament on the thirty-seventh session of the <u>Ad Hoc</u> Group of Scientific Experts to consider international co-operative measures to detect and identify seismic events	21.2.94
249	CD/1252 CD/NTB/ WP.37	Group of 21	Some key elements of a comprehensive nuclear-test-ban treaty	22.3.94
250	CD/1253	AHGSE	Progress Report to the Conference on Disarmament on the thirty-eighth session of <u>Ad Hoc</u> Group of Scientific Experts to consider international co-operative measures to detect and identify seismic events	6.4.94
251	CD/1254	AHGSE	Report of the <u>Ad Hoc</u> Group of Scientific Experts to consider international cooperative measures to detect and identify seismic events to the <u>Ad Hoc</u> Committee on a Nuclear Test Ban on International Seismic Monitoring and the GSETT-3 Experiment	25.3.94
252	CD/1255 CD/NTB/ WP.51	China	Letter dated 30 March 1994 from the Head of the delegation of the People's Republic of China addressed to the President of the Conference on Disarmament transmitting the text of a document entitled "Basic structure of a comprehensive test-ban treaty	30.3.94

Serial	Reference	Country	Description	Date
253	CD/1261 [EXTRACT]	Egypt	Letter dated 9 June 1994 from the Permanent Representative of Egypt addressed to the Secretary-General of the Conference on Disarmament transmitting the relevant part of the final document on disarmament and international security of the eleventh Ministerial Meeting of the Non-Aligned Movement which took place in Cairo, Egypt (31 May to 3 June 1994)	9.6.94
254	CD/1262 CD/NTB/ WP.120	USA	Letter dated 15 June 1994 from the Representative of the United States of America to the Conference on Disarmament addressed to the Deputy Secretary-General of the Conference on Disarmament transmitting a Statement made on 13 June 1994 to the <u>Ad Hoc</u> Committee on a Nuclear Test Ban	16.6.94
255	CD/1263 CD/NTB/ WP.121	China	Letter dated 15 June 1994 from the Head of the Delegation of the People's Republic of China to the Conference on Disarmament addressed to the President of the Conference on Disarmament transmitting the text of a statement made on 10 June 1994 by the spokesman of the Foreign Ministry of the People's Republic of China	16.6.94

Serial	Reference	Country	Description	Date
256	CD/1264	Canada	Letter dated 21 June 1994 from the Deputy Permanent representative of Canada Addressed to the Deputy Secretary-General of the Conference on Disarmament transmitting a verification subject index to CD Working Papers on the nuclear test ban issue	28.6.94
257	CD/1266 CD/NTB/ WP.140	Group of 21	Letter dated 4 July 1994 from the Permanent Representative of India, in his capacity as Coordinator of the Group of 21 on the item "Nuclear Test Ban" addressed to the President of the Conference on Disarmament transmitting the text of a statement by the Group of 21 on a Comprehensive Nuclear-Test-Ban Treaty	6.7.94
258	CD/1268 CD/NTB/ WP.148	Austria	Letter dated 4 August 1994 from the Permanent Representative of Austria addressed to the President of the Conference on Disarmament confirming the readiness of the Federal Government of Austria to host the future Comprehensive Test-Ban Treaty Organization (CTBTO) in Vienna	5.8.94
259	CD/1270	AHGSE	Progress Report to the Conference on Disarmament on the thirty-ninth session of the <u>Ad Hoc</u> Group of Scientific Experts to consider international co-operative measures to detect and identify seismic events	19.8.94

Serial	Reference	Country	Description	Date
260	CD/1272 CD/NTB/ WP.178	China	Letter dated 23 August 1994 from the Head of the Delegation of the People's Republic of China to the Conference on Disarmament addressed to the President of the Conference on Disarmament transmitting the text of a statement made by Counsellor Hu Xiaodi of the Chinese Delegation on 19 August 1994 at the <u>Ad Hoc</u> Committee on a Nuclear Test Ban	24.8.94
261	CD/1273/ Rev.1	AHCNTB	Report of the <u>Ad Hoc</u> Committee on a Nuclear Test Ban to the Conference on Disarmament	5.9.94
262	CD/1276	USA	Letter dated 29 August 1994 from the Representative of the United States of America to the Conference on Disarmament addressed to the Deputy Secretary-General of the Conference on Disarmament transmitting the text of a message by the President of the United States to the Conference on Disarmament, delivered orally to the Conference on 25 January 1994 by the Director of the United States Arms Control and Disarmament Agency, concerning the importance of the negotiation of a comprehensive and verifiable ban on nuclear explosions	30.8.94



CONFERENCE ON DISARMAMENT

CD/1235

5 January 1994

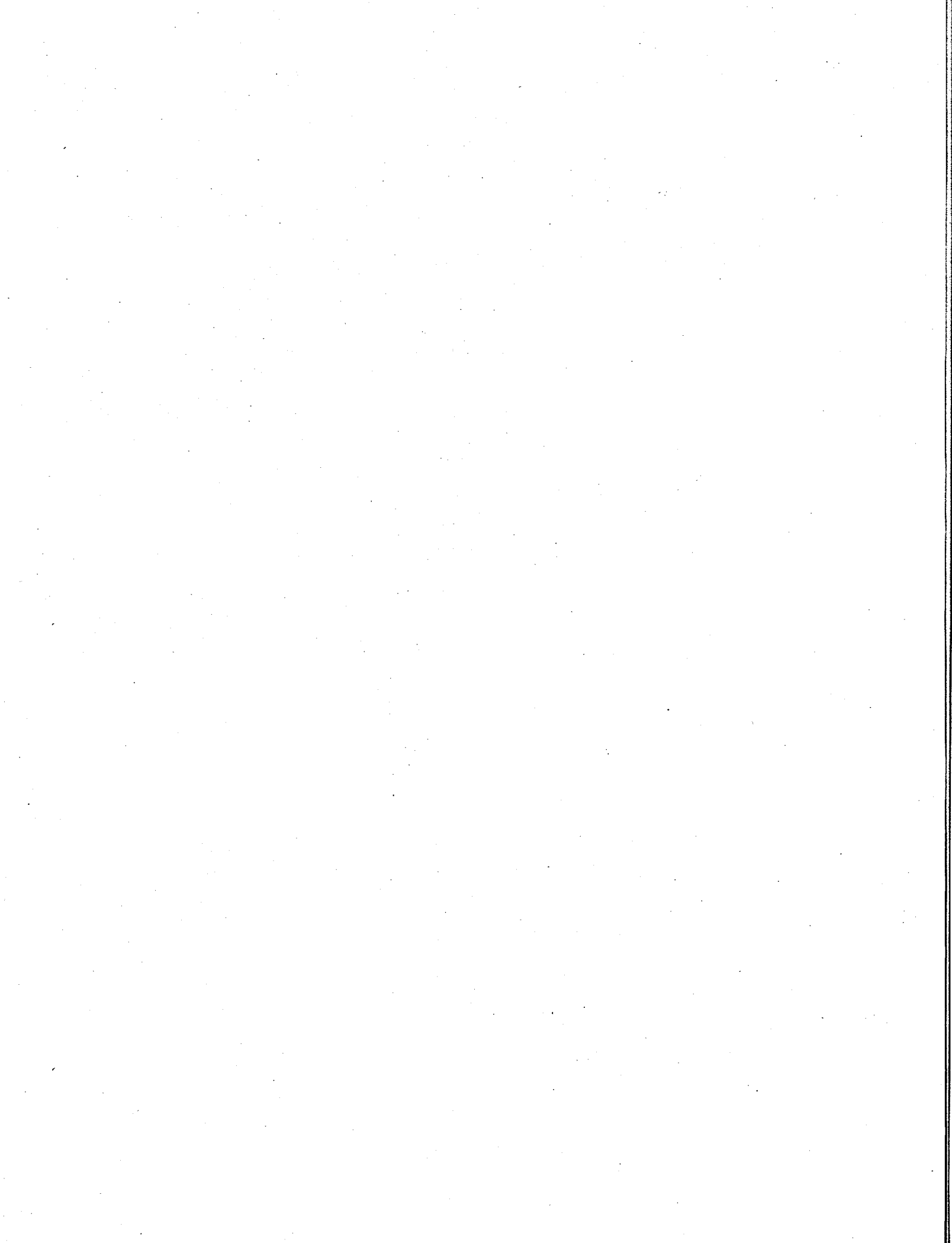
Original: ENGLISH

LETTER DATED 4 JANUARY 1994 FROM THE PERMANENT REPRESENTATIVE
OF AUSTRALIA TO THE UNITED NATIONS FOR DISARMAMENT MATTERS
ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT
TRANSMITTING THE TEXT OF A WORKING PAPER ENTITLED "COMPREHENSIVE
NUCLEAR TEST BAN TREATY: A DRAFT STRUCTURAL OUTLINE"

I have the honour to forward to you herewith the text of a working paper entitled "Comprehensive Nuclear Test Ban Treaty: a Draft Structural Outline", which I introduced and tabled during intersessional consultations convened on 9 December 1993 by Ambassador Tanaka in his capacity as Chairman of the Conference's Nuclear Test Ban Ad Hoc Committee.

I would be grateful if this working paper could be distributed as an official document of the Conference on Disarmament.

(Signed): Paul O'Sullivan
Ambassador



COMPREHENSIVE NUCLEAR TEST BAN TREATY

A DRAFT STRUCTURAL OUTLINE

For the purposes of developing a better basis for discussions under the Chairman's 10 August mandate of how the initial phase of the negotiation of a CTBT might be organised, it might be useful to conceptualise the structure of a CTBT as follows:

- Preamble
- Article I - Basic Obligations
- Article II - Declarations
- Article III - The Organization
- Article IV - National Implementation Measures and Assistance
- Article V - Verification
- Article VI - Settlement of Disputes
- Article VII - Non-compliance
- Article VIII - Privileges and Immunities
- Article IX - Status of Protocols
- Article X - Entry into Force
- Article XI - Reservations
- Article XII - Duration and Withdrawal
- Article XII - Review of the Treaty
- Article XIV - Amendments
- Article XV - Depositary
- Article XVI - Authentic Texts
- Protocol I - The Organization
- Protocol II - Global Monitoring and Verification System
 - Part I - Seismic Monitoring
 - Part II - Surveillance of Radionuclides in the Atmosphere
 - Part III - Use of Satellite Data
 - [Part x -]
- Protocol III - Procedures for On-Site Inspections and Monitoring
 - Part I - Procedures for International On-Site Inspections
 - Part II - Procedures for On-Site Monitoring of Large Non-Nuclear Explosions
- The Text on the Preparatory Commission

2. On the basis of acceptance that the negotiating structure for the Nuclear Test Ban Ad Hoc Committee in 1994 will consist of at least two subsidiary bodies, working respectively in verification and compliance on the one hand, and legal and institutional issues on the other, the following tentative division of

labour between the two Working Groups could be postulated for the treaty structure conceptualised above. This division does not exclude the likelihood that certain articles of a future CTBT will need to be considered substantively by both rather than simply one Working Group.

Working Group on Legal and Institutional Issues

Preamble

Article III - The Organization

Article IV - National Implementation Measures and Assistance

Article VI - Settlement of Disputes

Article VII - Privileges and Immunities

Article VIII - Non-compliance

Article IX - Status of Protocols

Article X - Entry into Force

Article XI - Reservations

Article XII - Duration and Withdrawal

Article XIII - Review of the Treaty

Article XIV - Amendments

Article XV - Depositary

Article XVI - Authentic Texts

Protocol I - The Organization

The Text on the Preparatory Commission

Working Group on Verification and Compliance

Article I - Basic Obligations

Article II - Declarations

Article V - Verification

Article VI - Settlement of Disputes

Article VII - Non-compliance

Protocol II - Global Monitoring and Verification System

Part I - Seismic Monitoring

Part II - Surveillance of Radionuclides in the Atmosphere

Part III - Use of Satellite Data

[Part x -]

Protocol III - Procedures for On-Site Inspections and Monitoring

Part I - Procedures for International On-Site Inspections

Part II - Procedures for On-Site Monitoring of Large
Non-Nuclear Explosions

3. From the above it would seem that both postulated working groups would have a very full program of useful work from an early stage. This would imply the need for both Working Groups to be commissioned during the first meeting of the Nuclear Test Ban Ad Hoc Committee so as to be in a position to take up

substantive discussions on individual topics as early as possible after the commencement of the session.

4. There is no readily apparent reason why substantive and detailed discussion of items on the above menus (as compared with the overall conceptual discussions sought by some delegations) should take place anywhere other than in the relevant Working Group. This question aside, however, initial and non-controversial tasks for the two Working Groups could be considered to include:

Working Group on Legal and Institutional Issues

Organisation of the Working Group (including appointment of Chairman)
Immediate commencement of substantive work on the following non-controversial topics:

- Preamble
- Privileges and Immunities
- Status of Protocols
- Review of the Treaty
- Amendments
- Depositary
- Authentic Texts

Working Group on Verification and Compliance

Organisation of the Working Group (including appointment of Chairman, discussion of management of the work program, consideration of initial tasking and priorities)
Session with IAEA representative (deferred from the 1993 Ad Hoc Committee's consideration of existing proposals)
Review of available verification technologies and costs
Immediate commencement of work on non- or less controversial topics such as Non-Compliance
(If agreed in line with the suggestion outlined in paragraph 4 above) focussed discussions on central issues related to verification and compliance, including scope of obligations

CONFERENCE ON DISARMAMENT

CD/1235/Corr.1
14 January 1994

ENGLISH
ARABIC, CHINESE, ENGLISH, FRENCH
and SPANISH only

LETTER DATED 4 JANUARY 1994 FROM THE PERMANENT REPRESENTATIVE
OF AUSTRALIA TO THE UNITED NATIONS FOR DISARMAMENT MATTERS
ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT
TRANSMITTING THE TEXT OF A WORKING PAPER ENTITLED "COMPREHENSIVE
NUCLEAR TEST BAN TREATY: A DRAFT STRUCTURAL OUTLINE"

Corrigendum

Page 3, first paragraph

At the beginning of the paragraph insert: 1.

Page 4, line 10, under the title "Working Group on Legal and
Institutional Issues" Articles were inverted. Please read

Article VII - Non-compliance
Article VIII - Privileges and Immunities

CONFERENCE ON DISARMAMENT

CD/1236
17 January 1994

Original: ENGLISH

(EXTRACT)

LETTER DATED 3 JANUARY 1994 FROM THE SECRETARY-GENERAL
OF THE UNITED NATIONS ADDRESSED TO THE PRESIDENT OF THE
CONFERENCE ON DISARMAMENT TRANSMITTING THE RESOLUTIONS
ON DISARMAMENT ADOPTED BY THE GENERAL ASSEMBLY AT ITS
FORTY-EIGHTH SESSION

I have the honour to transmit herewith the texts of the resolutions adopted by the General Assembly at its forty-eighth session, which make specific reference to the Conference on Disarmament.

For the information of the Conference, I also have the honour to transmit herewith other resolutions, dealing with or related to disarmament matters, adopted by the General Assembly at its forty-eighth session.

(Signed) Boutros Boutros-Ghali



General Assembly

Distr.
GENERAL

A/RES/48/69
6 January 1994

Forty-eighth session
Agenda item 65

RESOLUTION ADOPTED BY THE GENERAL ASSEMBLY

[on the report of the First Committee (A/48/670)]

48/69. Amendment of the Treaty Banning Nuclear
Weapon Tests in the Atmosphere, in Outer
Space and under Water

The General Assembly,

Recalling its resolutions 44/106 of 15 December 1989, 45/50 of 4 December 1990, 46/28 of 6 December 1991 and 47/46 of 9 December 1992,

Reiterating its conviction that a comprehensive nuclear-test-ban treaty is the highest-priority measure for the cessation of the nuclear-arms race and for the achievement of the objective of nuclear disarmament,

Recalling the central role of the United Nations in the field of nuclear disarmament and in particular in the cessation of all nuclear-test explosions, as well as the persistent efforts of non-governmental organizations in the achievement of a comprehensive nuclear-test-ban treaty,

Conscious of the growing environmental concerns throughout the world and of the past and potential negative effects of nuclear testing on the environment,

Recalling its resolution 1910 (XVIII) of 27 November 1963, in which it noted with approval the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water, 1/ signed on 5 August 1963, and requested the Conference of the Eighteen-Nation Committee on Disarmament 2/ to continue with a sense of urgency its negotiations to achieve the objectives set forth in the preamble to the Treaty,

1/ United Nations, Treaty Series, vol. 480, No. 6964.

2/ On 26 August 1969, the Conference of the Eighteen-Nation Committee on Disarmament decided to change its name to the Conference of the Committee on Disarmament. That negotiating body became the Committee on Disarmament as from the tenth special session of the General Assembly. The Committee on Disarmament was redesignated the Conference on Disarmament as from 7 February 1984.

Recalling also that more than one third of the parties to the Treaty requested the Depositary Governments to convene a conference to consider an amendment that would convert the Treaty into a comprehensive test-ban treaty,

Recalling further that a substantive session of the Amendment Conference of the States Parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water was held in New York from 7 to 18 January 1991,

Reiterating its conviction that the Amendment Conference will facilitate the attainment of the objectives set forth in the Treaty and thus serve to strengthen it,

Noting with satisfaction the unilateral nuclear-test moratoria announced by several nuclear-weapon States,

Welcoming the decision of the Conference on Disarmament to give its Ad Hoc Committee on a Nuclear Test Ban a mandate to negotiate a comprehensive test ban, 3/

Recalling its recommendation that arrangements be made to ensure that intensive efforts continue, under the auspices of the Amendment Conference, until a comprehensive nuclear-test-ban treaty is achieved, and its call that all parties participate in, and contribute to the success of, the Amendment Conference,

Recalling also the decision adopted by the Amendment Conference 4/ to the effect that, since further work needed to be undertaken on certain aspects of a comprehensive test-ban treaty, especially those with regard to verification of compliance and possible sanctions against non-compliance, the President of the Conference should conduct consultations with a view to achieving progress on those issues and to resuming the work of the Conference at an appropriate time,

Welcoming the ongoing consultations being conducted by the President of the Amendment Conference,

1. Notes the concluding statement 5/ made by the President of the Amendment Conference of the States Parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water at the special meeting of the States parties held on 10 August 1993, in which broad agreement was found for:

(a) Pursuing work for a comprehensive test ban in the Amendment Conference and the Conference on Disarmament in a mutually supportive and mutually complementary manner;

(b) Holding another special meeting early in 1994 to review developments and assess the situation regarding a comprehensive test ban and to examine the feasibility of resuming the work of the Amendment Conference later that year;

(c) Promoting universality of a comprehensive test ban by having the President of the Amendment Conference liaise closely with the Conference on Disarmament and the five nuclear-weapon States;

3/ See Official Records of the General Assembly, Forty-eighth Session, Supplement No. 27 (A/48/27), para. 31 (para. 2 of the quoted text).

4/ PTBT/CONF/13/Rev.1, para. 26.

5/ A/48/381, annex.

2. Recommends that arrangements be made to ensure the fullest possible participation of non-governmental organizations in the Amendment Conference;

3. Reiterates its conviction that, pending the conclusion of a comprehensive nuclear-test-ban treaty, the nuclear-weapon States should suspend all nuclear-test explosions through an agreed moratorium or unilateral moratoria;

4. Decides to include in the provisional agenda of its forty-ninth session the item entitled "Amendment of the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water".

81st plenary meeting
16 December 1993



General Assembly

Distr.
GENERAL

A/RES/48/70
6 January 1994

Forty-eighth session
Agenda item 66

RESOLUTION ADOPTED BY THE GENERAL ASSEMBLY

[on the report of the First Committee (A/48/671)]

48/70. Comprehensive test-ban treaty

The General Assembly,

Recalling that a comprehensive nuclear-test ban is one of the priority objectives of the international community in the field of disarmament and non-proliferation,

Convinced that the most effective way to achieve an end to nuclear testing is through the conclusion of a multilaterally and effectively verifiable comprehensive test-ban treaty that will attract the adherence of all States and will contribute to the prevention of the proliferation of nuclear weapons in all its aspects, to the process of nuclear disarmament and therefore to the enhancement of international peace and security,

Convinced also that the exercise of utmost restraint in respect of nuclear testing would be consistent with the objective of an international negotiation of a comprehensive test ban,

Noting the aspirations expressed by the parties to the 1963 Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water 1/ to seek to achieve the discontinuance of all test explosions of nuclear weapons for all time, which are recalled in the preamble to the 1968 Treaty on the Non-Proliferation of Nuclear Weapons, 2/

Welcoming the willingness of all nuclear-weapon States as well as the rest of the international community to pursue the multilateral negotiation of a comprehensive test-ban treaty,

Noting with satisfaction the initiation in 1993 by the Conference on Disarmament of work under item 1 of its agenda, entitled "Nuclear Test Ban" and the programme of substantive work subsequently undertaken within its Ad Hoc Committee on a Nuclear Test Ban,

1/ United Nations, Treaty Series, vol. 480, No. 6964.

2/ Ibid., vol. 729, No. 10485.

Noting also the ongoing activity of the Ad Hoc Group of Scientific Experts to Consider International Cooperative Measures to Detect and Identify Seismic Events,

1. Welcomes the decision 3/ taken by the Conference on Disarmament on 10 August 1993 to give its Ad Hoc Committee on a Nuclear Test Ban a mandate to negotiate a universal and internationally and effectively verifiable comprehensive test-ban treaty, and fully endorses the contents of that decision;
2. Calls upon participants in the Conference on Disarmament to approach the inter-sessional consultations mandated by that decision in a positive and constructive light;
3. Urges the Conference on Disarmament at the commencement of its 1994 session to re-establish, with an appropriate negotiating mandate, the Ad Hoc Committee on its agenda item entitled "Nuclear test ban";
4. Calls upon all States to support the multilateral negotiations in the Conference on Disarmament for a comprehensive test-ban treaty;
5. Also urges the Conference on Disarmament to proceed intensively, as a priority task, in its negotiation of such a universal and internationally and effectively verifiable treaty;
6. Requests the Secretary-General to ensure the provision to the Conference on Disarmament of additional administrative, substantive and conference support services for these negotiations;
7. Decides to include in the provisional agenda of its forty-ninth session an item entitled "Comprehensive test-ban treaty".

81st plenary meeting
16 December 1993

CONFERENCE ON DISARMAMENT

CD/1238
25 January 1994

Original: ENGLISH

Mandate for an Ad Hoc Committee under Agenda Item 1

"Nuclear Test Ban"

(Adopted at the 666th plenary meeting on 25 January 1994)

In the exercise of its responsibilities as the sole multilateral disarmament negotiating forum of the international community, the Conference on Disarmament decides to re-establish an Ad Hoc Committee under item 1 of its agenda entitled "Nuclear Test Ban", and to give priority to its work.

The Conference directs the Ad Hoc Committee to negotiate intensively a universal and multilaterally and effectively verifiable comprehensive nuclear test ban treaty, which would contribute effectively to the prevention of the proliferation of nuclear weapons in all its aspects, to the process of nuclear disarmament and therefore to the enhancement of international peace and security.

Pursuant to its mandate, the Ad Hoc Committee will take into account all existing proposals and future initiatives, as well as the work of the Ad Hoc Group of Scientific Experts to Consider International Cooperative Measures to Detect and Identify Seismic Events. The Conference requests the Ad Hoc Committee to establish the necessary working groups in order to carry forward effectively this negotiating mandate; these should include at least two working groups, one on verification and one on legal and institutional issues, which should be established in the initial stage of the negotiation, and any others which the Committee may subsequently decide upon.

The Ad Hoc Committee will report to the Conference on Disarmament on the progress of its work before the conclusion of the 1994 session.

CONFERENCE ON DISARMAMENT

CD/1239
25 January 1994

Original: ENGLISH

PRESIDENTIAL STATEMENT ON THE AGENDA AND ORGANIZATION OF WORK FOR THE 1994 SESSION OF THE CONFERENCE ON DISARMAMENT at the 666th plenary meeting on 25 January 1994

1. There is an understanding in the Conference that, at the outset of its 1994 session, the Conference decides, pending the conclusion of its consultations on the review of this agenda and without prejudice to their outcome, to adopt as its agenda the agenda of its 1993 session:

1. Nuclear test ban.
2. Cessation of the nuclear arms race and nuclear disarmament.
3. Prevention of nuclear war, including all related matters.
4. Prevention of an arms race in outer space.
5. Effective international arrangements to assure non-nuclear-weapon States against the use or threat of use of nuclear weapons.
6. New types of weapons of mass destruction and new systems of such weapons; radiological weapons.
7. Comprehensive programme of disarmament.
8. Transparency in armaments.
9. Consideration and adoption of the annual report and any other report, as appropriate, to the General Assembly of the United Nations.

2. The Conference further agrees, without prejudice to any future decisions on the organizational framework of other items, to begin its work immediately on: "Nuclear test ban", "Prevention of an arms race in outer space", "Effective international arrangements to assure non-nuclear-weapon States against the use or threat of use of nuclear weapons" and "Transparency in armaments". For this purpose, the Conference establishes Ad Hoc Committees on these items with the following mandates:

- Nuclear test ban (document CD/1238);
- Prevention of an arms race in outer space (document CD/1125);
- Effective international arrangements to assure non-nuclear-weapon States against the use or threat of use of nuclear weapons (document CD/1121);
- Transparency in armaments: (document CD/1150).

3. The Conference also decides, in the framework of agenda item 2, entitled "Cessation of the nuclear arms race and nuclear disarmament", to appoint, as a first step, a Special Coordinator to seek the views of its members on the most appropriate arrangement to negotiate a non-discriminatory, multilateral and internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices. It further requests the Special Coordinator to report on the progress of his consultations before the end of the first part of the session.

4. The Conference also recalls its decision to intensify its consultations on its improved and effective functioning, including its decision to carry out consultations on the issues of its membership and agenda. For this purpose, I confirm that I shall appoint two Special Coordinators to conduct consultations on the issues of membership and agenda respectively.

CONFERENCE ON DISARMAMENT

CD/1240
27 January 1994

Original: ENGLISH

LETTER DATED 26 JANUARY 1994 FROM THE PERMANENT REPRESENTATIVE OF INDONESIA ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING THE TEXT OF THE CONCLUDING STATEMENT OF THE PRESIDENT OF THE AMENDMENT CONFERENCE OF THE STATES PARTIES TO THE TREATY BANNING NUCLEAR WEAPON TESTS IN THE ATMOSPHERE, IN OUTER SPACE AND UNDER WATER AT THE SPECIAL (INFORMAL) MEETING OF THE STATES PARTIES HELD IN NEW YORK ON 10 AUGUST 1993

I have the honour to submit to you a document containing the concluding statement of the President of the Amendment Conference of the States Parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water at the Special (Informal) Meeting of the States Parties, New York, 10 August 1993.

It would be highly appreciated, if you could take the necessary steps to include this document as an official document of the Conference on Disarmament and at the same time to make it available to all member and non-member States, participating in the Conference on Disarmament.

(Signed): Soemadi D.M. Brotodiningrat

CONCLUDING STATEMENT OF THE PRESIDENT OF THE AMENDMENT
CONFERENCE OF THE STATES PARTIES TO THE TREATY BANNING NUCLEAR
WEAPON TESTS IN THE ATMOSPHERE, IN OUTER SPACE AND UNDER WATER
AT THE SPECIAL (INFORMAL) MEETING OF THE STATES PARTIES
NEW YORK, 10 AUGUST 1993

1. Pursuant to General Assembly resolution 47/46, a Special Meeting of the States Parties to the 1963 Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water was held on 10 August 1993. There was a general exchange of views on the developments regarding the issue of nuclear testing and the Parties considered the feasibility of resuming the work of the Amendment Conference.
2. The Special Meeting welcomed the encouraging developments concerning nuclear testing, in particular the de facto moratoria of nuclear tests declared by some nuclear states and their commitment to work expeditiously towards achieving a comprehensive test ban.
3. The Special Meeting further welcomed the decision of the Conference on Disarmament to give its Ad Hoc Committee on a Nuclear Test Ban a mandate to negotiate a comprehensive test ban.
4. The urgency for achieving a comprehensive test ban as well as the need for an expeditious means to realize this objective was emphasized by the Special Meeting.
5. The Special Meeting directed its attention to the fact that the consideration on a comprehensive test ban has been underway on three tracks, namely in the Conference on Disarmament, in the Amendment Conference and in the consultations among the nuclear powers. While some delegations expressed their own preference as to the forum in which a comprehensive test ban should be pursued, there was a general consensus that the work on a comprehensive test ban in the different forums, and especially between the Amendment

Conference and the Conference on Disarmament (CD) should be mutually supportive and mutually complementary.

6. There was also a broad consensus among the States Parties that the President of the Amendment Conference should continue his consultations with the States Parties as well as States not parties to the PTBT and to hold another Special Meeting early in 1994 in order to review developments and assess the situation regarding a comprehensive nuclear test ban and to examine the feasibility of resuming the work of the Amendment Conference later that year. In this connection it was recalled that pursuant to the decision of the Amendment Conference, further work needed to be undertaken especially that with regard to verification of compliance and possible sanctions against non-compliance.
7. In order to promote universality of a comprehensive test ban, the Special Meeting considered it essential that in pursuing his efforts, the President of the Amendment Conference closely liaise with the Conference on Disarmament and with the five nuclear powers.
8. The Special Meeting agreed that the elements of consensus emerging from this meeting could be used as the basis for formulating a draft resolution on the Amendment Conference in the forthcoming session of the General Assembly.

CONFERENCE ON DISARMAMENT

CD/1241
2 February 1994

Original: ENGLISH

LETTER DATED 1 FEBRUARY 1994 FROM THE DEPUTY PERMANENT REPRESENTATIVE OF CANADA ADDRESSED TO THE DEPUTY SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING FOUR COMPENDIA OF DOCUMENTS OF THE CONFERENCE ON DISARMAMENT TO SUPPORT THE NEGOTIATIONS ON A COMPREHENSIVE TEST BAN TREATY 1/

I have the honour to transmit to you four compendia of CD documents to support the negotiations on a Comprehensive Test Ban Treaty (CTBT):

- the first volume covers Plenary Statements (PV) on a CTBT for 1990-1993;
- the second, Plenary Working Papers (WP) for 1990-1993;
- the third, the Ad Hoc Committee on a Nuclear Test Ban Working Papers (CD/NTB/WP) for 1982 to 1993; and
- the fourth, treaty and draft treaty texts relating to a Nuclear Test Ban, from 1962 to 1993.

I would be grateful if the necessary arrangements could be made for the distribution of the above four volumes to all member and participating non-member State delegations, under cover of a CD number.

(Signed): Paul Dubois
Minister and Deputy
Permanent Representative to
the Conference on Disarmament

1/ A limited distribution of this publication in English only has been made available to the members and non-members invited to participate in the work of the Conference on Disarmament. Additional copies are available from the Permanent Mission of Canada.

CONFERENCE ON DISARMAMENT

CD/1242
4 February 1994

Original: ENGLISH and
RUSSIAN
(EXTRACT)

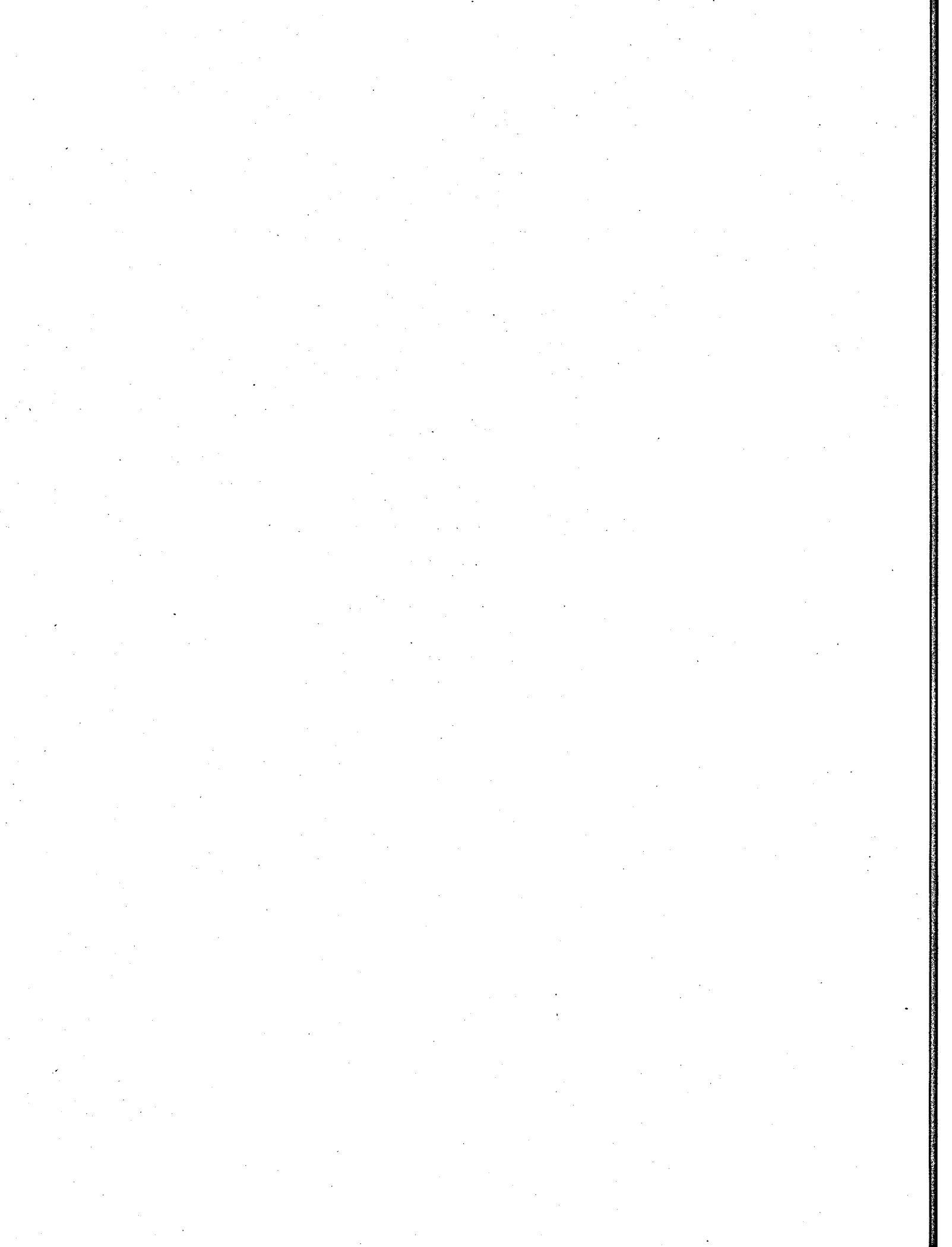
LETTER DATED 26 JANUARY 1994 FROM THE REPRESENTATIVE OF THE UNITED STATES OF AMERICA TO THE CONFERENCE AND THE PERMANENT REPRESENTATIVE OF THE RUSSIAN FEDERATION TO THE CONFERENCE ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT TRANSMITTING TEXTS OF CERTAIN DOCUMENTS ISSUED IN MOSCOW ON
14 JANUARY 1994

We have the honour to forward to you the English and Russian language texts of the Moscow Declaration, the Joint Statement by the President of the United States of America and the President of the Russian Federation on Non-proliferation of Weapons of Mass Destruction and the Means of their Delivery, the Joint Statement on Issues of Export Control and Policy in the Area of Transfers of Conventional Weapons and Dual-Use Technologies, and the Memorandum of Intent on Cooperation in the Area of Export Control, issued in Moscow on 14 January 1994.

Could you please take the appropriate steps to register these documents as official documents of the Conference on Disarmament, and to have them distributed to all member delegations and non-member States participating in the work of the Conference.

(Signed): Stephen J. Ledogar
Ambassador and United States
Representative to the
Conference on Disarmament

(Signed): Grigori V. Berdennikov
Ambassador Extraordinary
and Plenipotentiary
Permanent Representative of
the Russian Federation
to the Conference on
Disarmament



Moscow Declaration

President of the United States William J. Clinton and President of the Russian Federation Boris Yeltsin, having met together in Moscow from January 12-15, 1994, reaffirmed the fundamental importance of U.S.-Russian cooperation based upon the Charter of American-Russian Partnership and Friendship, the Vancouver Declaration, and existing treaties and agreements. They noted with satisfaction that the relationship between the United States and Russia has entered a new stage of mature strategic partnership based on equality, mutual advantage, and recognition of each other's national interests. From this perspective, they reviewed the full range of bilateral and international issues.

The two Presidents had an extensive discussion of security issues, including arms reduction and non-proliferation. Both parties expressed concern over increasing challenges to global non-proliferation regimes. They agreed upon the need to strengthen those regimes and to create, together with other interested states, a new mechanism to enhance transparency and responsibility in the transfer of conventional arms and sensitive dual-use technologies. They also strongly supported completion of negotiations on a comprehensive test ban at the earliest possible time. The two Presidents reiterated their support for a cutoff of production of fissile materials for weapons and considered new measures to strengthen strategic stability.

JOINT STATEMENT
BY THE PRESIDENT OF THE UNITED STATES
AND THE PRESIDENT OF THE RUSSIAN FEDERATION
ON NON-PROLIFERATION OF WEAPONS OF MASS DESTRUCTION
AND THE MEANS OF THEIR DELIVERY

President Clinton and President Yeltsin, during their meeting in Moscow on January 14, 1994, agreed that the proliferation of weapons of mass destruction and their missile delivery systems represents an acute threat to international security in the period following the end of the Cold War. They declared the resolve of their countries to cooperate actively and closely with each other, and also with other interested states, for the purpose of preventing and reducing this threat.

The Presidents noted that the proliferation of nuclear weapons creates a serious threat to the security of all states, and expressed their intention to take energetic measures aimed at prevention of such proliferation.

CD/1242
page 10

...

- They reaffirmed their countries' commitment to the conclusion as soon as possible of an international treaty to achieve a comprehensive ban on nuclear test explosions and welcomed the decision to begin negotiations at the Conference on Disarmament. They declared their firm intention to provide political support for the negotiating process, and appealed to other states to refrain from carrying out nuclear explosions while these talks are being held.

... The presidents of the two countries agreed that, in addition to strengthening global norms of non-proliferation and working out agreements to this effect, close cooperation is essential in order to develop policies on non-proliferation applicable to specific regions posing the greatest risk of proliferation of weapons of mass destruction and their means of delivery.

...

- They supported efforts to reach agreement on the establishment of a multilateral forum to consider measures in the field of arms control and non-proliferation that could strengthen security in South Asia. They called on India and Pakistan to join in the negotiation of and become original signatories to the Treaty Banning Nuclear Weapons Test Explosion and the proposed Convention to Ban Production of Fissile Materials for Nuclear Weapons and to refrain from deploying ballistic missiles capable of delivering weapons of mass destruction to each other's territories.

CONFERENCE ON DISARMAMENT

CD/1245

21 February 1994

Original: ENGLISH

PROGRESS REPORT TO THE CONFERENCE ON DISARMAMENT ON THE
THIRTY-SEVENTH SESSION OF THE AD HOC GROUP OF SCIENTIFIC
EXPERTS TO CONSIDER INTERNATIONAL COOPERATIVE MEASURES
TO DETECT AND IDENTIFY SEISMIC EVENTS

1. The Ad Hoc Group of Scientific Experts to Consider International Cooperative Measures to Detect and Identify Seismic Events, initially established in pursuance of the decision taken by the Conference of the Committee on Disarmament on 22 July 1976, held its thirty-seventh formal session from 7 to 18 February 1994, in the Palais des Nations, Geneva, under the Chairmanship of Dr. Ola Dahlman of Sweden. This was the twenty-ninth session of the Group, convened under its new mandate by the decision of the Committee on Disarmament at its 48th meeting on 7 August 1979.
2. The Ad Hoc Group is open to all member States of the Conference on Disarmament. It is also open on a standing basis to all non-member States which have been invited upon their request by the Conference on Disarmament to participate in its work. Accordingly, scientific experts and representatives of the following member States of the Conference on Disarmament participated in the session: Australia, Belgium, Canada, China, Egypt, France, Germany, Hungary, India, Italy, Japan, Mexico, Netherlands, Pakistan, Peru, Romania, Russian Federation, Sweden, United Kingdom of Great Britain and Northern Ireland and the United States of America.
3. Scientific experts and representatives from the following non-member States of the Conference on Disarmament participated in the session: Austria, Czech Republic, Denmark, Finland, New Zealand, Norway, South Africa, Spain and Switzerland.
4. During the session 41 papers containing information on national investigations related to the work of the Group were presented by experts from: Australia, Austria, Canada, Denmark, Egypt, Finland, France, Germany, Hungary, India, Italy, Japan, New Zealand, Norway, Pakistan, Romania, Russian Federation, South Africa, Spain, Sweden, Switzerland, United Kingdom and United States of America.

5. The Ad Hoc Group discussed the schedule and plans for developing, testing and evaluating an experimental International Seismic Monitoring System. This effort, referred to as GSETT-3, is now well under way, and builds upon key elements developed in previous tests. The GSETT-3 exercise has three primary objectives that distinguish it from previous tests. These objectives are to:

(a) develop and test new concepts for an experimental International Seismic Monitoring System, building upon previous experience;

(b) provide a practical basis upon which to furnish the Conference on Disarmament with timely technical information;

(c) develop an experimental system that can evolve and adapt to support future requirements that may be set forth by the Conference on Disarmament.

The current plans call for the full-scale phase of GSETT-3 to begin by 1 January 1995. The Group has adopted a schedule to meet this date as follows (note that the various versions of the experimental International Data Center are explained in Annex III):

February 1994:	IDC Version 1 implemented
February-July 1994:	Continue step-by-step implementation of stations, communications network and national facilities
	Operate IDC Version 1
July 1994:	IDC Version 2a implemented
July-October 1994:	Continue step-by-step implementation of stations, communications network and national facilities
	Operate IDC Version 2a
October 1994:	IDC Version 2b implemented
October-December 1994:	Finalize participation of countries and stations
	Finalize elements of the experimental system
	Operate IDC Version 2b
1 January 1995:	IDC Version 3 implemented
	Begin full-scale tests
	Begin evaluation of performance

It is difficult to assess, at this time, the ultimate duration of commitments of the type needed for GSETT-3. For financial planning purposes, countries participating in GSETT-3 should be prepared to support their national facilities and their communication links for a minimum of one year after the start of the full-scale experiment.

6. The Ad Hoc Group expressed grave concern over the lack of commitments of participation of seismological facilities and stations to meet the objectives of GSETT-3. A good global distribution of seismographic stations and communications from these stations to the International Data Center are essential to the success of the GSETT-3. A summary of the countries from which commitments are needed for GSETT-3 are given in Annex I.

- The Ad Hoc Group appreciates the offer of the Chairman of the Ad Hoc Committee on a Nuclear Test Ban to assist in widening the participation of countries in the planned GSETT-3. Countries can participate in GSETT-3 by contributing seismic facilities in their countries, by establishing communication links from these facilities to the International Data Center, by participation of National Data Centers and by contributing to the evaluation process. In some cases, bilateral and multilateral cooperation will be important. Countries can also assist by providing technical and financial assistance in these areas to other countries whose participation is essential.
- The Chairman of the Ad Hoc Group has written to a number of countries urging their participation in the GSETT-3. Copies of these letters have been provided to the Chairman of the NTB Ad Hoc Committee. The Ad Hoc Group will continue this initiative.
- Thus far the main focus of the preparations for GSETT-3 has been on identifying and establishing the first tier of the global network, the Alpha stations. The Ad Hoc Group will work to identify additional existing seismic facilities which can contribute to GSETT-3 in those countries which have not yet made a commitment of participation in GSETT-3. To this end the Group designated a representative to work with the Federation of Digital Seismograph Networks (FDSN) to determine the potential usefulness of stations in these networks to GSETT-3. The FDSN has agreed to cooperate with the Ad Hoc Group in this endeavour. Countries having any stations identified through these initiatives will be contacted to obtain formal approval by the country for participation in GSETT-3.

It is of particular importance to ensure financial resources for continuous data transmission, and for operation of other facilities during GSETT-3.

7. The Ad Hoc Group conducted in-depth discussions of the results of the three working groups that it has established to deal with the planning, operation and evaluation of GSETT-3. Several meetings of these working groups were held during the session. A summary of the status of the efforts of these three working groups is annexed to this progress report.

As a result of the efforts of the working groups, substantial progress has been made regarding the preparations for GSETT-3. Particularly noteworthy is the rapid progress in establishing and starting operations at the IDC. Plans for conducting and evaluating GSETT-3 have been developed in considerable detail. There are, however, some areas of concern, as noted by these working groups:

- The current lack of commitment to participate in GSETT-3 may delay a successful optimization of all processes in the GSETT-3 system. The desired gradual build-up towards the full-scale testing may suffer from such delays.
- The successful operation of the IDC during GSETT-3 depends on support from participating countries for both software and personnel. A plan for involvement of a number of countries in the operation of the IDC was presented.
- Significant contributions from experts and NDCs in the participating countries are needed for the evaluation process.

8. The Chairman of the Ad Hoc Group reported to the Group on the results of informal consultations which he has been conducting with participating delegations on various proposals that were submitted to the Group during its thirty-sixth session. These proposals, on which no consensus was reached at that time concerned work in the areas of seismic event identification methods, non-seismological monitoring techniques, and for the consideration of non-seismic methods.

9. The Ad Hoc Group is at present giving priority to the planning and conduct of GSETT-3. This extensive global experiment could provide information relating to a future International Seismic Monitoring System (ISMS) which could be useful to the NTB Committee in their negotiations:

- The station network designed for GSETT-3 could provide a basis for the design of the ISMS.
- The functions and products which have been designed for the experimental IDC could be a guide to the functions and products required from the ISMS for monitoring purposes.
- The detailed instructions and procedures developed for GSETT-3 could provide a good foundation for an Operating Manual for the components of the ISMS.
- The hardware and software developed at the experimental IDC and at existing and new seismological stations, and the experience gained by system operators around the world, could provide a valuable infrastructure that could facilitate the rapid implementation of the ISMS.

- The results and experiences which could be obtained as GSETT-3 evolves could be useful in modifying the system design, in estimating system capabilities, staffing requirements and operating instructions of the ISMS.
 - GSETT-3 could provide valuable information on costs associated with the establishment and operation of the ISMS.
10. As previously noted, the infrastructure of the ISMS is flexible enough to incorporate the collection, archiving and distribution of data from non-seismic techniques, for example, radioactivity, hydroacoustics and infrasound. During the session, the Group received two national reports on networks for monitoring radionuclides in the atmosphere.
11. More specifically, the Ad Hoc Group proposes to undertake the following tasks in support of the CD and its NTB Committee:
- Conduct GSETT-3 as planned.
 - Provide information on all aspects of GSETT-3 to the CD, the NTB Committee and any of its working groups.
 - Study how the GSETT-3 data exchange system, in particular the experimental IDC, might also be used for the collection, processing and distribution of data from other monitoring techniques.
 - Respond in a timely and prompt manner to requests from the NTB Committee or its Verification Working Group for specific tasks of a technical and scientific nature.
12. The Ad Hoc Group received and appreciated briefings from the Chairman of the Ad Hoc Committee on a Nuclear Test Ban. The Group agreed to invite the Chairman of the Ad Hoc Committee on a Nuclear Test Ban and the Chairman of the Ad Hoc Committee's Working Group on Verification to its next sessions.
13. The Ad Hoc Group noted with appreciation the convening of three informal technical meetings since its previous session.
- During 9-11 August 1993, Finland hosted an informal workshop in Helsinki on the issue of seismic detection methods. The workshop was organized into two parts, comprising invited technical presentations and drafting of a report. The workshop was attended by eight experts from five countries.
 - On 2 November 1993, the United States hosted a tour and informal demonstration for CD ambassadors of the facilities of the experimental International Data Center (IDC) being developed by the Group for the GSETT-3. The purpose was to acquaint the participants with the ongoing work of the Ad Hoc Group as related to the planning and carrying out of the GSETT-3, with particular emphasis on the role of the International Data Center. Representatives from 25 countries attended the

demonstration and tour. The Chairman and Scientific Secretary of the GSE also attended and provided an overview of the activities and plans of the Group to the ambassadors.

- During 10-14 November 1993, Italy hosted a workshop in Erice, Sicily, on planning and procedures for GSETT-3. The aim of the workshop was to provide a factual contribution to the activities of the Ad Hoc Group before its thirty-seventh formal session. In particular, the workshop was dedicated to the preparation of the GSETT-3 global experiment. The workshop was attended by 50 experts from 23 countries. Proceedings from the workshop will be published as a special issue of the scientific journal "Annali di Geofisica".

14. The Ad Hoc Group received a request from the Ad Hoc Committee on a Nuclear Test Ban to provide a report summarizing the activities of the Group in the context of the GSETT-3. The Ad Hoc Group appointed a drafting group to prepare such a report. The Ad Hoc Group suggests that its next session, subject to approval by the Conference on Disarmament, should be convened from 21 to 25 March 1994 in Geneva, to finalize the report and present the report to the Ad Hoc Committee on a Nuclear Test Ban. Thereafter, the Ad Hoc Group envisages to meet early in the second part of the session of the Conference on Disarmament, at a date to be agreed during the March session.

Annex I

GSETT-3 Participation Status as of 18 February 1994

Country	Prop. Alpha Stations	No. of Stations by countries *		Date, when decision on commitment is expected	Date, when data will be available to the IDC	Comments
		Alpha	Beta			
Argentina	1	-	-	-	-	-
Australia	5	5	11	committed	Mar.-Sep. 1994	-
Austria	0	0	1	June 1994	Aug. 1994	-
Belgium	0	0	0	-	-	Gamma only
Bolivia	1	-	-	-	-	-
Botswana	1	-	-	-	-	-
Brazil	1	1	0	committed	-	-
Canada	3	6	19	unknown	Mar./June 1994	-
Centr. Afric. Rep.	1	-	-	-	-	-
China	3	-	-	-	-	to be defined
Czech Rep.	0	0	1	unknown	Sep. 1994	-
Denmark	1	1	0	July 1994	July 1994	Planning remains
Egypt	1	1	0	unknown	unknown	Work remains
Finland	1	1	4	committed	now	-
France	0	-	-	-	-	under examination
Germany	1	1	9	unknown	now	-
Hungary	0	0	1	committed	now	-
India	1	1	0	committed	-	-
Indonesia	1	-	-	-	-	-
Italy	0	0	2	committed	now	-
Ivory Coast	1	-	-	-	-	-
Japan	1	1	0	committed	June 1994	-
Kazakhstan	1	-	-	-	-	-
Kenya	1	-	-	-	-	-
Rep. of Korea	1	-	-	-	-	-
Mexico	0	1	2	June 1994	July 1994	Work remains
Netherlands	0	0	1	committed	Aug. 1994	-
N. Africa (XAF)	1	-	-	-	-	MEDNET Opt.
New Zealand	0	0	2	committed	now	-
Norway	3	3	1	committed	now/Oct. 1994	-
Pakistan	1	1	1	committed	unknown	Comm. uncertain
Paraguay	1	-	-	-	-	-
Papua New Guinea	1	-	-	-	-	-
Peru	0	-	-	-	-	-
Romania	0	0	1	committed	Sep. 1994	-
Russian Fed.	5	4	6	May 1994	Jan. 1995	-
S. America (XSA)	1	-	-	-	-	-
South Africa	1	1	1	committed	Mar./June 1994	Work remains
Spain	1	1	0	committed	Jan. 1995	poss. plus 1 Beta
Sweden	0	1	0	committed	May 1994	Coop. with Norway
Switzerland	0	0	3	April 1994	Jan. 1995	Work remains
Thailand	1	-	-	-	-	-
Turkey	1	-	-	-	-	-
Turkmenistan	1	-	-	-	-	-
United Kingdom	0	0	1	committed	Oct. 1994	-
United States	8	11	14	comm.:3α,9β	now/Apr.1994/unkn.	Work remains
Total (committed)	53	41 (19)	81 (35)			

* No. of stations already committed, or planned (not yet committed)

Countries for which a commitment is needed for one or more Alpha stations in the GSETT-3 network:

Argentina
Bolivia
Botswana
Canada
Central African Republic
China
Denmark
Egypt
Germany
Indonesia
Ivory Coast
Kazakhstan
Kenya
Republic of Korea
Papua New Guinea
Paraguay
Russian Federation
Thailand
Turkey
Turkmenistan

Annex II

STATUS REPORT FROM GSETT-3 WORKING GROUP ON PLANNING

Terms of reference

The main purpose of the Working Group on Planning is to organize the preparations for GSETT-3. Work is being conducted under the following terms of reference:

1. Design and develop the plan and procedures for GSETT-3, including the structure of the overall documentation for the test. The documentation structure would include all the information needed to plan, operate and evaluate GSETT-3.
2. Coordinate the plan and procedures documentation with the Operations and Evaluation Working Groups to ensure that it reflects all the information needed by all the groups.
3. Initiate informal technical contact with potential participants to help define the Alpha, Beta and Gamma stations. Advise the Scientific Secretary and the Chairman of need to initiate formal contacts.
4. On behalf of the Planning, Operations and Evaluation Working Groups, serve as a focal point to contact participants and collect all information needed for the plan and procedures documentation.
5. Produce the documentation and distribute it to the Group through the Scientific Secretary.
6. Continue to develop and maintain the GSETT-3 documentation throughout the planning, operations and evaluation phases of GSETT-3.

Overall documentation structure

The GSETT-3 Working Groups have agreed to produce an integrated set of documentation for the test, containing all the material needed to plan, conduct and evaluate GSETT-3. An overall structure comprising five volumes is envisaged, as follows:

- Volume 0: Overview
- Volume 1: Plan
- Volume 2: Operations materials
- Volume 3: Facilities
- Volume 4: Evaluation

An overview of GSETT-3 (Volume 0) has already been produced in the form of a colour booklet. The task of preparing material for the other four volumes has been

distributed between the working groups. Volume 3 will contain factual information on all facilities used in GSETT-3, including stations, data centres (NDCs and IDC) and communications. The GSETT-3 participants will be responsible for providing the information required on the facilities contributed. To facilitate the process of collecting and compiling such data, one or more templates are being developed and will be forwarded to the GSETT-3 participants in due course.

Participation

In its session in August 1993, the GSE proposed an Alpha network comprising 53 stations. Countries for which commitment to participate with proposed Alpha stations was lacking, were approached in writing in December 1993. A few of these countries have since made their commitment, but it is very disturbing that only 19 Alpha stations are committed as of the end of the February 1994 GSE session. Further calls for participation have been initiated through the CD and its NTB Ad Hoc Committee.

Several questionnaires have been issued to collect information needed from GSETT-3 participants, especially on status development and contact persons. One questionnaire issued together with the Operations Working Group collected information on plans related to reporting by the NDCs of Gamma data. It appears that many countries plan to provide such data, but it may be difficult for them to find resources to provide Gamma data within 48 hours, especially during weekends.

Definition of the Beta-station network

A specific network of Beta stations for GSETT-3 has not yet been defined. Several countries have offered such stations, and efforts are under way to identify additional candidate stations around the world that would meet the requirements. Stations that belong to networks associated with the International Federation of Broadband Digital Seismograph Networks are of special interest in this regard. A concrete proposal for a Beta-station network will be worked out, so that the host countries in question can be approached and asked to make commitments to contribute data from these stations in GSETT-3.

Areas of concern

The major concern is the current lack of commitment to participate with Alpha stations in GSETT-3. This can potentially hamper the development work at the IDC, and makes the desired gradual build-up towards the full-scale testing more difficult.

Another concern at this time is a potential lack of geographical balance in the Beta-station network.

Annex III

STATUS REPORT FROM GSETT-3 WORKING GROUP ON OPERATIONS

Terms of reference

The terms of reference of the Operations Working Group have been agreed as follows:

1. Design and implement the elements of the Experimental International Seismic Monitoring System according to the concepts agreed to within the GSE.
2. Establish the system requirements, the functional specifications and operational plans.
3. Provide information to the planning group for them to incorporate this information into the GSETT-3 Plan and Procedures documentation.
4. Provide metrics to the Evaluation Group on a timely basis in agreed formats.
5. Incorporate recommendations from the Evaluation Group on an ongoing basis during GSETT-3. For example, expanding the network, upgrading the stations, incorporation of new procedures.
6. Maintain technical contacts during GSETT-3.

GSETT-3 operations plan

The plan calls for a series of four versions of the system (0, 1, 2 and 3) leading up to the start of full-scale testing of the complete system at the beginning of 1995. Each version will include new participants, stations, software, hardware, staff and processing objectives. During version 0, which began in early 1993, the Operations Group focused on adding new stations, testing communications facilities and the development of IDC software.

Design of the general IDC systems architecture is nearly complete. The data processing and analysis programs are improved versions of those used by the Washington IDC during GSETT-2. New software for acquiring and providing access to data has been developed and is currently being tested in cooperation with several National Data Centers (NDCs). The flexibility of the architecture will permit relatively easy modification of most operational procedures, for example, signal and event processing parameters, time schedules etc.

GSETT-3 version 0 results

Processing of data collected from six Alpha and fifteen Beta stations in Europe and Scandinavia resulted in the production of an Alpha Event List within about one hour, and an analyst Reviewed Event Bulletin within two days that contain a daily average of about 20 events. The addition of data from Beta stations in central Europe (the only area where the density of version 0 Beta stations is significantly higher than for the Alpha stations) resulted in an 84 per cent decrease in the area of the location error ellipse.

GSETT-3 version 1 started in February 1994. The major objective during version 1 will be to add further stations and to add and test new seismological procedures discussed by the GSE.

Operations manuals

The Operations Working Group has assumed responsibility for preparing volume 2 of the GSETT-3 documentation. This volume, to be divided into three manuals, will describe facilities, supporting organizations and operational procedures for the three key elements of the system, namely:

International Data Center
National Data Centers
Seismic Stations

An outline of the volume has been agreed upon which provides a comprehensive and consistent structure between the various manuals. Particular emphasis has been placed on defining the operational aspects of the new concepts that most widely affect the participants and products including communications of both Alpha and Beta data, selection and use of Gamma data, signal and event processing and services to be provided to the participants. Much of the material required for these documents is already available and it is expected that complete drafts of all three manuals will be completed during the intersessional period.

Areas of concern

- The successful optimization of all processes in the GSETT-3 system depends crucially on the early implementation and testing of new stations prior to the start of the full-scale test in 1995. At this time only about 10 per cent of the proposed number of stations are contributing data to the GSETT-3 system.
- The Operations Group is actively seeking support from participating States for software and staff to ensure successful operation of the IDC during GSETT-3.

Annex IV

STATUS REPORT FROM GSETT-3 WORKING GROUP ON EVALUATION

Terms of reference

The terms of reference of the Evaluation Working Group have been identified as follows:

1. Develop criteria for, and execute, acceptance tests for all elements of the system.
2. Develop criteria for and execute dynamic ongoing evaluations on the operation and performance of the system.
3. Develop criteria for and execute periodic comprehensive evaluations on the operation and performance of the system.
4. In executing these tests and evaluations, engage all participants to the extent required.
5. Provide recommendations to the Operations Working Group on an ongoing basis during GSETT-3.
6. Collect all the data and information needed to evaluate all elements of the EISMS, including cost.
7. Provide appropriate documentation for all the above steps and formal reports to the GSE.

Time Schedule of the Evaluation Task

The evaluation task is an ongoing process with the following tentative schedule:

- | | |
|-----------------|--|
| following 1994: | Presentation of the proposed evaluation programme to the GSE |
| March 1994: | Start evaluation of available elements of the EISMS |
| July 1994: | first evaluation report on the IDC and some other modules of the EISMS |
| September 1994: | acceptance testing of the components of the EISMS. i.e. some of the alpha stations, the beta stations, the IDC, the communications and the NDC |

February 1995: evaluation report on the performance of the EISMS at least every six months to the GSE; with possible modifications of evaluation criteria, and of concepts and procedures of the EISMS

Organization

Detailed test methods will be worked out by the evaluation group in conjunction with the Operations Working group. These should describe exactly what will be tested, who is responsible and what the criteria of success are.

The evaluation will require contributions from many experts but it is the responsibility of the evaluation group to propose the evaluation criteria, to coordinate the evaluation, to evaluate the overall performance of the EISMS and to report to the GSE.

These reports will be written every sixth month and should contain an evaluation of the EISMS with regard to the objectives set by the GSE. Areas where improvements are needed will be identified and if these improvements require changes in the concepts or in agreed procedures, the evaluation group will propose such changes to the GSE. If only changes in the implementation details are needed, they will be addressed directly to the operations working group.

Evaluation manual

The Evaluation Working Group is responsible for preparing volume 4 of the GSETT-3 documentation. After an overview of the evaluation programme, and of the general issues to be fulfilled by the EISMS (such as new concepts, detection capability, location accuracy, cost estimates, etc.). This volume will contain a comprehensive description of each module of EISMS (stations, communications, NDC, IDC and seismological methods) in terms of standards required, acceptance tests, ongoing evaluation and responsibility for their evaluation.

It is expected that a complete draft of this volume will be submitted to the GSE during the present session.

Areas of concern

To achieve such a goal, the Evaluation Working Group needs the efficient participation of experts and NDC facilities during the entire evaluation process.

CONFERENCE ON DISARMAMENT

CD/1245/Corr.1
29 March 1994

Original: ENGLISH

PROGRESS REPORT TO THE CONFERENCE ON DISARMAMENT ON THE
THIRTY-SEVENTH SESSION OF THE AD HOC GROUP OF SCIENTIFIC
EXPERTS TO CONSIDER INTERNATIONAL COOPERATIVE MEASURES
TO DETECT AND IDENTIFY SEISMIC EVENTS

Corrigendum

Page 5

Delete the third tick of paragraph 11.

CONFERENCE ON DISARMAMENT

CD/1252
22 March 1994

Original: ENGLISH

GROUP OF 21

Working paper

Some key elements of a Comprehensive Nuclear Test Ban Treaty

The Group of 21 notes with satisfaction the prompt establishment of the Ad hoc Committee on Nuclear Test Ban and adoption of a mandate to negotiate a Comprehensive Nuclear Test Ban Treaty (CTBT). It also notes that the extensive debate on some key elements of a CTBT has taken place and the Working Groups on Verification and Legal and Institutional issues have started their work.

The Group of 21 reiterates that the conclusion of a CTBT is an indispensable measure to put an end to the nuclear arms race and to achieve the complete elimination of those weapons. A CTBT will also be an important milestone for non-proliferation in all its aspects including horizontal and vertical proliferation. Therefore it calls upon the international community, including the Nuclear Weapon States, to urgently conclude the negotiations of a CTBT in 1994.

The principles and elements in order to ensure the early conclusion and effective implementation of a CTBT have already been spelt out in the G-21 Working Paper CD/1231 entitled "Conclusion of a Comprehensive Nuclear Test Ban Treaty". In addition, the negotiations of a CTBT should take into account its following views on some key elements of a CTBT:

(1) Structure and scope of CTBT:

The CTBT should aim at the general and complete cessation of nuclear tests by all States in all environments for all time. In this context, it is relevant to recall that the States Parties of PTBT had declared their commitment to conclude a Treaty "resulting in the permanent banning of all nuclear test explosions, including all such explosions underground". These obligations need to be fulfilled while drawing up the scope and the structure of a CTBT.

The objective of a CTBT should not be to aggravate or perpetuate imbalance and discrimination. Accordingly, the scope of a nuclear test ban also should be directed to the prevention of both the acquisition of nuclear weapons and of the improvement of existing ones. Therefore, a CTBT should not

be seen merely as a non-proliferation agreement but an agreement that can contribute to nuclear disarmament. The ban should be comprehensive and not have a certain threshold. No tests should be carried out under the pretext for safety purposes. The PTBT phrase "any nuclear weapon test explosion, or any other nuclear explosion" provides a useful starting point in this respect. The coverage of preparatory activities for a nuclear test is a complex issue and requires further study. The treaty should not contain any provision that could be interpreted as restricting the transfer of nuclear technology for peaceful purposes.

The Australian Working Paper CD/1235 on "CTBT: a draft structural outline" provides a useful illustrative structure of a CTBT. These should also include an article on "sanctions".

(2) Verification and compliance:

It is widely recognized that the questions relating to verification and compliance can only be considered in conformity with other aspects of a treaty. Hence, disarmament and arms limitation agreements should provide for adequate measures of verification satisfactory to all parties concerned in order to create the necessary confidence and ensure that they are being observed by all parties. The form and modalities of the verification to be provided in any agreement depends upon and should be determined by the purpose, scope and nature of the agreement.

Therefore the verification system under a CTBT should be universal in its application, non-discriminatory in character and should guarantee equal access to all States. It should be internationally supervised and technically effective. In this context, an evolutionary approach is preferable.

It is widely believed that the seismic verification will form the core of the future verification system. The Working Group on verification should utilize the important work being done by the Group of Scientific Experts to Consider International Cooperative Measures to Detect and Identify Seismic Events (GSE). It should maintain constant liaison with GSE. Members of G-21 have participated in GSETT-1 and GSETT-2 experiments. The Group supports GSETT-3 and encourages more countries to participate in it. The seismic technique may be complemented by non-seismic verification techniques after further negotiations prove their technical validity. The verification regime should also be cost effective so that the States parties are not over-burdened by an expensive verification regime.

(3) Organization:

The purpose of a CTBT organization should be to carry out effective implementation of its verification regime. It should have a high degree of technical expertise to be effective. This international organization should have the capability to analyse and exchange the international seismic data and also other non-seismic data. The organization should also be cost effective and not have a large bureaucracy. The utilization of expertise of existing organizations such as IAEA should also be considered. The costs of the organization and the verification regime should be shared according to United Nations scale of assessment.

(4) Entry into force (EIF):

The CTBT should be able to attract universal adherence. Therefore, it should cover all States. The participation of the nuclear weapon States is essential. EIF should not be complicated to delay the process. The expansion of membership of CD should not be utilized as a pretext to delay the EIF. The issue of the adequate number of States required for EIF also needs to be carefully negotiated.

Conclusion:

More views of G-21 on the above basic elements of a CTBT and other aspects of a CTBT will also be further elaborated in the Working Groups.

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CONFERENCE ON DISARMAMENT

CD/1253*
6 April 1994

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PROGRESS REPORT TO THE CONFERENCE ON DISARMAMENT ON THE
THIRTY-EIGHTH SESSION OF THE AD HOC GROUP OF SCIENTIFIC
EXPERTS TO CONSIDER INTERNATIONAL COOPERATIVE MEASURES
TO DETECT AND IDENTIFY SEISMIC EVENTS

1. The Ad Hoc Group of Scientific Experts to Consider International Cooperative Measures to Detect and Identify Seismic Events, initially established in pursuance of the decision taken by the Conference of the Committee on Disarmament on 22 July 1976, held its thirty-eighth formal session from 21 to 25 March 1994, in the Palais des Nations, Geneva, under the Chairmanship of Dr. Ola Dahlman of Sweden. This was the thirtieth session of the Group, convened under its new mandate by the decision of the Committee on Disarmament at its 48th meeting on 7 August 1979.
2. The Ad Hoc Group is open to all member States of the Conference on Disarmament. It is also open on a standing basis to all non-member States which have been invited upon their request by the Conference on Disarmament to participate in its work. Accordingly, scientific experts and representatives of the following member States of the Conference on Disarmament participated in the session: Australia, Belgium, Bulgaria, Canada, China, France, Germany, India, Italy, Japan, Korea, Republic of, Netherlands, Russian Federation, Sweden, United Kingdom of Great Britain and Northern Ireland and the United States of America.
3. Scientific experts and representatives from the following non-member States of the Conference on Disarmament participated in the session: Czech Republic, Denmark, Finland, Norway, Spain and Switzerland.

* Reissued for technical reasons.

4. Following a request by the Ad Hoc Committee on a Nuclear Test Ban, the Ad Hoc Group of Scientific Experts finalized a report to summarize the knowledge and experience on the upcoming GSE Third Technical Test (GSETT-3). A specific request was for an elaboration on:

- The overall concept of GSETT-3;
- The function and components of the system;
- Matters of organization and cost.

This report has been presented to the Ad Hoc Committee and is provided to the Conference on Disarmament as document CD/1254. The report was presented to the Ad Hoc Committee by Dr. Ola Dahlman. Experts from the Group of Scientific Experts gave presentations to the Ad Hoc Committee's Working Group I on Verification in their national capacities. The experts and subjects covered were Dr. Peter W. Basham (Canada) on seismic techniques, Dr. Frode Ringdal (Norway) on GSETT-3, Dr. Steven R. Bratt (United States) on the GSETT-3 International Data Centre, and Dr. Heinrich W. Haak (Netherlands) on organization and cost.

5. The Ad Hoc Group received and appreciated a briefing from the Chairman of the Ad Hoc Committee on a Nuclear Test Ban Working Group I on Verification.

6. The Ad Hoc Group noted with appreciation the convening of an informal technical workshop in Tokyo, Japan during 14-16 March 1994. The purpose of the workshop was to contribute to the development of GSETT-3. Twenty-three experts from 21 countries attended the workshop.

7. The Ad Hoc Group suggests that its next session, subject to approval by the Conference on Disarmament, should be convened from 8-19 August 1994 in Geneva. This session will be devoted to further planning and preparations for GSETT-3 and responding to requests from the Ad Hoc Committee and its Working Group I on Verification for specific tasks of a technical and scientific nature.

CONFERENCE ON DISARMAMENT

CD/1254

25 March 1994

Original: ENGLISH

REPORT OF THE AD HOC GROUP OF SCIENTIFIC EXPERTS TO CONSIDER
INTERNATIONAL COOPERATIVE MEASURES TO DETECT AND IDENTIFY
SEISMIC EVENTS TO THE AD HOC COMMITTEE ON A NUCLEAR TEST BAN
ON INTERNATIONAL SEISMIC MONITORING AND THE GSETT-3 EXPERIMENT

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Executive Summary

Following a request by the Ad Hoc Committee on a Nuclear Test Ban, the Ad Hoc Group of Scientific Experts finalized a report to summarize the knowledge and experience on the upcoming GSE Third Technical Test (GSETT-3). A specific request was for an elaboration on:

- The overall concept of GSETT-3.
- The function and components of the system.
- Matters of organization and cost.

The Ad Hoc Group of Scientific Experts (GSE) has reported on a number of occasions to the Conference on Disarmament on its activities to develop and test the concepts for an International Seismic Monitoring System (ISMS) for detecting the seismic signals produced by a nuclear explosion detonated underground. These activities are collectively known as GSETT-3, or the GSE Technical Test Three. This ambitious experiment, which is already underway will be a realistic test on a global scale of the new concepts of the ISMS. These new concepts include: a single centralized International Data Centre; a specifically designed high-quality seismographic network; and a modern communications system providing continuous data to the international centre.

It is planned that the test will involve more than 100 seismological stations distributed world wide in more than 40 countries and a centralized International Data Centre (IDC). The GSETT-3 should provide the practical experience and infrastructure which could be used by the Conference on Disarmament to establish a seismic monitoring system for a CTBT. The major pieces of the infrastructure to be developed and tested are the network of seismological stations and the International Data Centre.

The ISMS concept of a global network of stations is a two-tiered system. The most important tier is made up of the highest quality stations which are located, in so far as possible, at carefully chosen sites where the background noise (which limits the detection of signals) is very low. These stations are described as Alpha stations and the data from these stations would be transmitted continuously to the IDC. For GSETT-3, a total of 57 of these sites have been identified with stations in 34 countries and Antarctica to cover all the continents. In most cases, high quality stations already exist at these sites. These stations have been chosen to meet criteria established by the GSE for sensitivity, operations and geographical distribution.

The second tier of stations are called Beta stations and are, in general, equipped with simpler sensors, but nevertheless conform as close as possible to the high standards of the Alpha stations. They are supplementary to the Alpha stations and are intended primarily to provide additional seismological data as needed to improve the accuracy of the location of a seismic disturbance initially detected by the Alpha network. The data from the Beta stations will be accessed on an automatic basis only as required by the IDC. It is anticipated that the number of Beta stations around the world would exceed the number of Alpha stations.

The GSETT-3 concept also includes the incorporation of other supplementary data from networks of national seismographic stations not specifically designed for the detection of nuclear explosions but rather used to monitor the earthquakes within or close to national territories. Data from these networks would be provided on a voluntary basis by national authorities. Information on small local seismic disturbances could well be provided by the parties which operate such national networks upon a request from the IDC.

The International Data Centre is the focal point for the GSETT-3 system acting as the data collection and distribution facility for the entire network. The IDC would provide products and services to all the participants in GSETT-3 on an equal basis. Two important products are the basic raw sensor data from all of the stations in the network and a listing of all seismic events around the globe detected by the system giving the time of occurrence, location, and other information to describe the event. The IDC would also provide permanent storage of all the data collected in the system. The IDC also oversees the overall operation of the global network of stations.

To organize an effective management system, the ISMS concept proposes that participating States establish National Data Centres (NDCs) to serve as an interface between the seismic network and the IDC. Each participating State would receive data and processed results from the IDC through these centres.

The GSE plans to test the experimental ISMS in a way that matches as closely as possible the design concepts outlined above. Over the past year, substantial progress has been made in establishing facilities and starting operations for the test. There has been rapid progress in establishing and starting operations of the IDC, located in Arlington, Virginia, United States. It is expected that during GSETT-3 the IDC will have an international staff of 40-50 people. The entire experiment is being implemented in stages, with a plan to build up to full-scale operations beginning in January 1995. Most of the Alpha stations exist today and a number of new stations are being established through national or cooperative international efforts. Modern communications links must be installed for both the Alpha and Beta stations in the network.

The full GSETT-3 Alpha network, when put into operation would provide a capability to detect seismic disturbances down to a magnitude of between 3 and 3 1/2 on the Richter scale. A network with good global coverage is essential to meet the objectives of GSETT-3. At this time, only 20 of the 57 Alpha stations (12 of 34 countries) have been committed by their host countries. It is, therefore, most important that those countries, most of whom are members or observers to the CD, that have not yet committed the needed facilities to the GSETT-3 provide the required stations as soon as possible. Countries may, through bilateral or multilateral cooperation, provide technical and financial assistance to other countries whose participation is essential.

Considerable investment has been made in developing the facilities to be used in the GSETT-3. The total investment to date totals about 150 million US dollars (Alpha stations - \$100 M; Beta stations - \$10 M; Communications - \$10 M; and the IDC - \$30 M). A total new investment of about 27 million US

dollars is planned on the GSETT-3 facilities in the near future. The annual operating costs for GSETT-3 is about 26-30 million US dollars with the cost of the Alpha network, communications, and the IDC being about equal.

There are a number of ways in which the GSETT-3 experience can provide contributions to the Nuclear Test Ban Ad Hoc Committee in its negotiations. The GSETT-3 could provide inter alia the following information relating to a future seismic monitoring system:

- The station network designed for GSETT-3 could provide a basis for the design of the ISMS.
- The functions and products which have been designed for the IDC could be a guide to the functions and products required for monitoring purposes.
- The detailed instructions and procedures developed for GSETT-3 could provide a good foundation for Operating Manuals for the components of the ISMS.
- The facilities (IDC, seismological stations of the networks) could provide a valuable infrastructure that could facilitate the implementation of an ISMS under a treaty.
- The experiences in GSETT-3 could be useful in estimating system capabilities, costs and staffing requirements.

In view of these considerations, the GSE expects GSETT-3 to represent a major contribution to the advancement of a prototype operational ISMS. Nevertheless, it is important to note that as an experimental system, the global network in operation during GSETT-3 will not provide all the capabilities that might be required by a seismic monitoring system under a future CTBT.

Chapter 1

Background

Seismology

Seismology is the science of earthquakes and includes the study of seismic waves from sources such as earthquakes and explosions. The recording by seismograph stations and the study of seismic waves allows seismologists to determine the nature and location of a seismic source, and to study the internal structure of the earth. The best method of detecting a fully contained underground nuclear explosion (one which does not vent radioactive materials to the surface) is to record the seismic waves generated. A network of seismic stations is therefore an essential element in the monitoring system that would be put in place to assist in the verification of compliance with a ban on underground nuclear tests. However, seismic means make it possible to detect nuclear explosions in other environments also, e.g. underwater.

Earthquake research expanded slowly in the early part of this century, aided by the first world-wide seismograph networks established at the turn of the century. Much of the early impetus came from the need to understand the causes of large disastrous earthquakes: San Francisco, United States, 1906, and Kwanto, Japan, 1923, to name just two. The early seismograph networks in many countries were installed in response to damaging earthquakes. By the 1950s, the science of seismology was carried out by several institutions acting independently on each of the major continents, with ad hoc procedures for data exchange following very large damaging earthquakes. It was the need to monitor underground nuclear testing that produced a major leap in the science beginning about 1960. Global networks of standardized instruments were installed, at first with analog recording and later with digital recording to facilitate data processing and analysis with computers.

There are, on average, more than 7,000 earthquakes per year around the world that are larger than seismic body-wave magnitude 4 (Figure 1). A magnitude 4 disturbance is large enough for humans to feel shaking if they are within about 100 km from the earthquake source. This is also the seismic magnitude produced by a fully contained and coupled explosion in hard rock with a size of approximately one kiloton. The numbers of natural earthquakes increase by a factor of about 8 for each decrease of 1 magnitude unit (i.e. there would be about 60,000 earthquakes per year larger than seismic magnitude 3). The detection capability for smaller earthquakes is not uniform around the globe. Some national seismograph networks can detect seismic events within their networks down to small magnitudes, but there are many regions of the globe where there are too few seismograph stations to detect below about magnitude 4.5.

Detecting and Locating Seismic Events

Detection

Modern seismometers (the sensor component of the seismograph) can detect ground movements as small as the size of atomic spacing, and thus in principle can detect the seismic waves from very small seismic events. However, not

only the events of interest cause vibrations in the earth. Natural processes such as wind and ocean waves and cultural activity such as automobile traffic and factories generate continuous vibrations, "seismic noise", that is also recorded by the seismographs. An event of interest can be "detected" only if the signal produced by its seismic waves exceeds the seismic noise. The nature and level of seismic noise will vary considerably with location. The quietest sites for seismographs are near the centre of large continents, away from the influence of ocean waves, and a few tens of kilometres away from significant human activity. There are many such sites on earth, and these are the locations of the seismographs producing the best detection capability of seismic events globally.

Detection of seismic waves can also be enhanced by signal processing, particularly when applied to the recordings from a seismic array. A seismic array is a cluster of seismometers distributed over a small area, typically a few to about 20 km across. During data processing, the array can be "steered", like an antenna, to detect the oncoming direction and speed of the seismic wave, which in turn can provide an estimate of the location of the seismic source. By adding the signals from the individual seismometers together, the detection capability is improved by increasing the signal relative to the noise. Typically, an array can lower the detection threshold by at least one-half magnitude unit relative to a conventional seismograph station. This corresponds roughly to a factor of three or more when converted to explosion yields.

Location

Once a seismic event has been detected, an accurate location must also be established. Although a single array can provide an estimate of the location of the seismic source, this estimate usually has a large uncertainty if it is in the "teleseismic" distance range, 3,000 to 10,000 km from the array. It is more common to consider locations based on computations using the time that seismic waves are recorded at a minimum of three or four stations or arrays. It is difficult to generalize about accuracy achievable in seismic event locations, which depends on both the numbers of stations and arrays detecting the events and on the precision with which the seismic wave speeds are known within varying and often complicated geological structures of the earth. With data from a number of nearby stations a good location may be determined with a precision of better than 5 km; whereas with data only from distant stations a good location may have a precision of about 20 km. High accuracy in locating seismic events can also be achieved by a seismic array if appropriately calibrated. This becomes important in the verification process because it gives an indication of the size of the land area that may have to be covered by an on-site inspection.

Identification

Seismological research into discrimination between earthquakes and underground explosions has been carried on for more than three decades. It must be emphasized that the problem of seismic event identification is a very complex issue, and it has not yet been discussed in detail in the GSE.

During GSETT-3, a number of parameters which may be useful for the identification of seismic events will be compiled by the International Data Centre (IDC) and provided to participants for their national assessment. The availability of seismic waveform data at the IDC will be of key importance to providing this information.

CD Group of Scientific Experts (GSE)

In 1976, the Conference of the Committee on Disarmament established the "Ad Hoc Group of Scientific Experts to Consider International Cooperative Measures to Detect and Identify Seismic Events", now commonly known as the "GSE". The Group was asked to "specify the characteristics of an international monitoring system, including the costs which would be incurred if an international monitoring system were established". The Group "would endeavour to estimate the detection and identification capability of such an international cooperative system ... but should not, however, assess the adequacy of such a system for verifying a comprehensive test ban".

In 1984, the GSE conducted its first global test (GSETT-1) which consisted of the exchange of basic parameter data of seismic events using the low capacity communications circuits of the World Meteorological Organization. This system proved inefficient and was far too restrictive in the amount of information that could be collected and analysed.

Based on the experience from GSETT-1, the GSE conducted its second test in 1991, using more modern communications facilities to exchange selected segments of waveform data from 60 seismograph stations in 34 countries. The data was analysed in four centres concurrently. The experiment demonstrated the need to carefully select the network of stations based on specific technical requirements and showed that there was no need for four analysis centres.

The planned GSETT-3, draws upon the results of the first two experiments and builds upon the recommendations and experiences of these tests. This ambitious experiment, which is already underway, will be a realistic test on a global scale of the new concepts. These new concepts include: a single centralized International Data Centre; a specifically designed high-quality seismographic network; and a modern communications system providing continuous data to the international centre.

The GSE has prepared a number of comprehensive consensus reports to the Conference on Disarmament describing the work that the Group has undertaken and the results of the large scale and smaller scale tests carried out by the Group. A bibliography of reports by the Group is attached in Annex 2.

Chapter 2

Overall Concept of GSETT-3

Introduction

In the course of its work, the Group of Scientific Experts has developed several concepts for an International Seismic Monitoring System (ISMS) and conducted two technical tests to assess the performance of these concepts. As part of the Group's Third Technical Test (GSETT-3), the Group has advanced and refined these concepts and is now embarking on an operationally realistic test of this new generation of concepts. The overall concepts which are being developed and tested as part of GSETT-3 are described in this chapter. Additional details of the concept can be found in documents submitted by the GSE to the CD, including CD/1211 (August 1993) and CD/1245 (March 1994).

GSETT-3 has three additional objectives that distinguish it from previous tests. These objectives are to:

- (a) Develop and test new concepts for an experimental International Seismic Monitoring System, building upon previous experience;
- (b) Provide a practical basis upon which to furnish the Conference on Disarmament with timely technical information;
- (c) Develop an experimental system that can evolve and adapt to support future requirements that may be specified for an International Seismic Monitoring System.

The International Seismic Monitoring System is aimed primarily at detecting the seismic signals generated by a nuclear explosion detonated underground. The essential features of the ISMS are to:

- Provide rapid acquisition of data from a global network of seismic sensors and processing of this data at a central processing facility;
- Ensure prompt distribution of all data to all participating States for their national verification purposes;
- Provide as much automation as possible in the collection, processing, and distribution of data;
- Provide a permanent archive of all data collected or generated by the ISMS;
- Provide data security and quality control;
- Provide a cost-efficient service to all participating States;
- Establish a monitoring system architecture which is flexible enough to allow any technical modifications and improvements which may be needed in the future.

Overall Design Concept

The ISMS encompasses an integrated network of highly capable seismic sensors, a modern communications network, an International Data Centre and National Data Centres to collect and distribute the monitoring data. The overall system must accomplish its monitoring functions rapidly and reliably, and provide results in a cost-effective manner. Hence, the ISMS must incorporate a high degree of automation in its operations. The principal components of the International Seismic Monitoring System are the following:

- A global monitoring network of seismograph stations meeting agreed rigorous technical specifications. The stations of this network are specifically designed and located to provide detection of seismic events throughout the world. The operation of the stations are designed to ensure uninterrupted streams of reliable data, even from stations located in remote areas.
- An International Data Centre (IDC) which receives the data from the monitoring network, applies standard processing techniques to these data, and provides this information, along with other "standard services," to the National Data Centres of participating States. All data received at the IDC and the data products created at the IDC are archived and provided for open access by any participating State.
- National Data Centres (NDCs) established in participating States. The NDCs can receive any or all of the data collected at the IDC and the standard service products supplied by the IDC. The NDCs also compile supplementary national data on seismic activity and may submit this information to the IDC.

A Global Monitoring Network of Stations

The global seismic monitoring network is a two-tiered network of Alpha and Beta stations. The first tier of stations, or Alpha stations, is to be composed primarily of arrays of sensors, with some three-component stations, which would provide for the detection and initial location of seismic events on a global basis for the ISMS. The second tier of stations, or Beta stations, would provide supplementary data so that events detected by the Alpha stations could be located with improved accuracy.

Participating States may also make available supplementary data from national and regional seismic networks that are not formally part of the ISMS. This national information is referred to as Gamma data.

The general concept for the Alpha network is as follows:

- The equipment at the Alpha stations would meet defined minimum technical specifications as regards sensitivity, instrument response, recording hardware and software, operation, and management. These specifications have been chosen because they are appropriate to the detection of signals from underground nuclear explosions. The GSE has defined the specifications that should be

met by these "ISMS-standard" stations. This does not mean that these facilities must consist of identical components, but the components of these systems must meet basic functional and technical requirements. If the technical components meet these criteria, instruments could be configured in many ways so that the ISMS standard stations could be tailored to the local site conditions and coupled to the overall network configuration to achieve an adequate global monitoring capability. The standard technical characteristics of the equipment in an Alpha station are provided in Annex 1. The operation of the stations would be automated to the highest degree possible.

- The stations of the Alpha network must be globally distributed in such a way as to take into account areas with good signal recording conditions and to provide an overall global coverage for the detection of underground nuclear explosions. The concept for the ISMS calls for at least 50 stations of this type to be the "backbone" of the global network. As a general principle, the stations should be located at "quiet sites," i.e., sites where the noise disturbances are minimal. This number (at least 50) of stations is based on well-founded seismological considerations provided the stations, as far as possible, are uniformly spread over the globe. Based on experience from technical tests, results of computer simulations, and extensive technical investigations, the Alpha network consisting of 57 stations (see Fig. 2) has been initially defined and will be tested during GSETT-3.
- Each of the stations of the Alpha network would have a reliable communications system for transmittal of data to the IDC. Waveform data from the stations of the Alpha network would be telemetered continuously to the IDC, either directly or uninterrupted through an NDC. These stations would also be provided with on-site backup recording in case of communication outages.

The general concept for the Beta network is as follows:

- Beta stations are primarily three-component stations, with some arrays. To the extent possible and practicable, the Beta stations should conform to the technical specifications and standards of Alpha stations.
- Data from Beta stations must be immediately available to the IDC. Though not telemetered continuously to the IDC, waveform segments can be retrieved automatically by the IDC from the Beta station or from an archive at the National Data Centres containing the continuous data from a Beta station. This requirement also demands a reliable communications system for on-demand access to the data from these stations.
- The GSE has recommended that at least 100 stations of this type be part of the overall ISMS network.

The preliminary concept for Gamma data is as follows:

- Participating States may also make available to the IDC supplementary data from national and regional networks which are operated by those States and which are not formally part of the ISMS.
- The national and regional networks from which the Gamma data are derived are maintained to individual national or regional network standards.
- Gamma data can also be made available by request but the rapidity of response may vary from one national or regional network to another.

An International Data Centre

The International Data Centre is the focal point for the ISMS, acting as a data collection, processing and distribution facility for the network. The IDC would provide data organization function, data archiving, and data products for the benefit of all participating States.

- The IDC would receive all of the seismic data transmitted over the communications circuits from the Alpha and Beta stations. Continuous data from the Alpha stations would be received by continuous telemetry and data segments from Beta stations would be retrieved automatically by the IDC.
- The IDC would process the data from the Alpha and Beta stations to produce a worldwide listing of seismic events. The listing of events would include: the location, the time of occurrence, the depth of origin, the size (magnitude) of the event, and other standard seismological parameters to describe the event.
- The analysis procedures at the IDC would be automated to the degree possible. The procedures should be validated, well-documented and follow strict rules and schedules. All procedures should be repeatable so that results are reproducible. The standard analytical procedures to be carried out at the IDC and the standard services to be provided by the IDC would be documented.
- All data from the ISMS network received at the IDC would be checked for quality and accuracy and placed in an archive. This archive would include all waveforms received and all of the data products generated by the IDC, e.g., event lists, bulletins, and detection lists. The IDC would also collect and archive other seismological information (Gamma data) received from the National Data Centres. The volume of data to be collected and archived at the IDC would be significant.
- The IDC would monitor the calibration of the Alpha and Beta stations and ensure overall quality control of the data of the

ISMS. The IDC would also monitor the status of stations and communications and provide quality status information to the NDCs.

- The IDC would be an open facility with all data and processing results easily and openly available to all participating States. Data and processing results not older than 15 days should be available for on-line access, and data older than 15 days should be available within 24 hours.
- Carrying out the work at the IDC would be a joint international effort.

National Data Centres

The National Data Centres serve as the interface between a participating State and the international component of the ISMS. The NDC is the window through which each participating State receives raw data from stations of the ISMS and processed results from the IDC.

- NDCs would be established by participating States to send and/or receive data from the IDC.
- Alpha data would be transmitted continuously to the IDC either directly or through an NDC.
- Automatic access to the data from the Beta stations may be either through the NDCs or directly to the stations themselves.
- Gamma data would be compiled by the NDCs. The procedures for reporting and using this Gamma data are still being elaborated by the GSE.

Chapter 3

Functions and Components of GSETT-3

Introduction

The GSE intends to test in GSETT-3 an experimental International Seismic Monitoring System (ISMS) that matches as closely as possible the design concepts outlined in Chapter 2. It is an important consideration to try to test all the key elements and features of the ISMS concept at least somewhere, if not everywhere, within the GSETT-3 system.

An important aspect of GSETT-3 is to plan and conduct the experiment in such a way that it can be adequately and effectively evaluated. The GSETT-3 system must thus provide the data necessary to demonstrate the viability and performance of the ISMS concept. In particular, the cost of such a system must be assessed.

By computer simulations, the GSE has estimated the event detection and location capability of the GSETT-3 system, given specific event definition criteria. It should be investigated during GSETT-3 whether these theoretical capabilities are actually attained in practical operation. To validate the GSE concept of an Alpha plus Beta station network explained earlier, it must be demonstrated that this network provides event locations that are clearly better than those obtained using the Alpha network alone.

GSETT-3 Elements

The various elements to be tested during GSETT-3 (Alpha and Beta stations, National Data Centres, and an International Data Centre) will, to the extent possible, be established and operated in accordance with the design concept outlined in Chapter 2.

The number of Beta stations in GSETT-3 is expected to be much larger than the number of Alpha stations. A specific network of Beta stations for GSETT-3 has, however, not yet been defined by the GSE. Several countries have offered such stations, and efforts are underway to identify additional candidate stations around the world that would meet the requirements. An optimum configuration for a Beta-station network is being developed in order to provide a basis for identifying potential host countries which would be requested to make a commitment to contribute data from these stations during GSETT-3.

NDCs (or in some cases regional data centres) will be established in participating countries and will be responsible for the maintenance of the Alpha and Beta stations and their communications links during GSETT-3.

The scope of the work and responsibilities at each NDC will vary according to the facilities and resources available and will depend on the requirements of each participating State with regard to national verification procedures.

If Gamma data is to be reported, the NDC will be responsible for collation and submission of Gamma data reports to the IDC.

One of the most important functions of NDCs during GSETT-3 will be to participate in the evaluation process. In order to contribute to the ongoing evaluation of GSETT-3, NDCs will be responsible for collating statistics on their NDC and station operations and for sending feedback reports on various aspects of the IDC performance.

Detailed analysis of IDC products may be performed at NDCs with particular emphasis on the assessment of event location accuracy within their geographic region. NDCs may submit requests to the IDC for waveform data from any station in the network.

The GSE has accepted the offer of the United States to develop and host the experimental IDC for GSETT-3 in Arlington, Virginia. The procedures used at this experimental IDC will follow, as far as possible, the procedures currently envisaged for the eventual IDC. Thus, the procedures will be validated, fully documented and follow strict rules and schedules, and will be as automatic as possible. The products and services of the experimental IDC will include:

- an automatically produced seismic event list based on Alpha station data within one hour;
- an automatically produced seismic event list based on Alpha and Beta station data within four hours;
- a final seismic event bulletin within two days, containing high-quality, analyst-reviewed event solutions.
- a continuous assessment of the capability of the network providing information regarding the lowest magnitude at which events may be detected and any global variations in this magnitude level. This information will be provided on a routine basis and in response to requests from participants.
- system monitoring data and graphic displays of the status of all key components of the GSETT-3 system.
- organized access to all the data received and produced by the IDC.

GSETT-3: Current status and future plans

Over the past year, substantial progress has been made regarding the preparations for GSETT-3. Particularly noteworthy is the rapid progress in

establishing and starting operations at the IDC. Plans for conducting and evaluating GSETT-3 have been developed in considerable detail, and are documented in the GSE progress reports.

Several countries have committed stations and national facilities to participate in GSETT-3, although formal commitments of participation are still urgently needed from a number of countries. The status on participation is summarized in the GSE progress reports.

Most of the stations which have been identified as forming the GSETT-3 Alpha network exist today, but are not yet sending data continuously to the IDC. A number of new stations will have to be established through national or cooperative international efforts. Modern, high-speed communication links will be established for both the Alpha and Beta stations in the experimental network. The GSE foresees a gradual establishment of the network by adding stations when they are completed or made available.

There will also be a gradual implementation of the Beta stations which will be chosen in such a way as to create the best possible network from those stations which are made available to the GSETT-3 network.

Both Alpha and Beta stations will be subjected to acceptance tests prior to being incorporated into the experimental system. An acceptance test of the International Data Centre will also be carried out. Furthermore, the GSE will conduct an ongoing assessment during GSETT-3. Results will be continually incorporated into the system to improve its performance so that the system will be capable of supporting future requirements by the Conference on Disarmament relating to the monitoring of a comprehensive nuclear test ban treaty.

The GSETT-3 International Data Centre is being implemented in stages. The number of stations available and number of days processed per week will increase steadily from the initial IDC implementation in early 1994 (6 Alpha and 13 Beta stations; data analysed 2 days per week) to the eventual IDC implementation 1 January 1995 (full GSETT-3 network; data analysis 7 days per week).

There has been rapid progress in establishing and starting operations of the IDC, located in Arlington, Virginia, United States. The IDC is now functioning and receiving data from stations of the Alpha network as they become operational and communication links are established. During GSETT-3, it is planned that the IDC will have an international staff of 40 to 50 people. The selection of this staff is now underway. An organizational structure within the IDC has been put into place to carry out all of the IDC functions.

Details on the implementation schedule of GSETT-3 are provided in the GSE progress reports.

Although it is recognized that the commitments required from participating States will involve allocation of considerable resources, it is difficult to give any precise indication of the duration of the experiment. For financial

planning purposes, countries participating in GSETT-3 should be prepared to support their national facilities and their communication links for a minimum of 1 year after the start of the full-scale experiment.

What Can GSETT-3 Provide to the NTB Committee?

The GSETT-3 system will provide experience with data and services needed by the national verification programs of the participating States for monitoring a CTBT. These products, which have been described in this report, will be made available through the experimental IDC.

GSETT-3 will provide an infrastructure in the form of technical facilities, including education and training of personnel, which could facilitate the implementation of a monitoring system for verifying compliance with a CTBT.

More specifically, GSETT-3 could provide, inter alia, the following information relating to a future International Seismic Monitoring System (ISMS), which could be useful to the NTB Committee in their negotiations:

- The station network designed for GSETT-3 will provide a basis for the design of the ISMS.
- The functions and products which have been designed for the experimental IDC will be a guide to the functions and products required from the ISMS for monitoring purposes.
- The detailed instructions and procedures developed for GSETT-3 will provide a good foundation for an Operating Manual for the components of the ISMS.
- The hardware and software developed at the experimental IDC and at existing and new seismological stations, and the experience gained by system operators around the world, will provide a valuable infrastructure that could facilitate the rapid implementation of the ISMS.
- The results and experiences which will be obtained as GSETT-3 evolves will be useful in modifying the system design, in estimating system capabilities, costs, staffing requirements and operating instructions of the ISMS.
- GSETT-3 will serve to validate theoretical assessments of the detection capabilities around the world of the proposed Alpha network configuration.

The GSE has conducted extensive theoretical studies of the projected detection capability of the GSETT-3 network under various scenarios. An example is given in Fig. 3, requiring 3 or more detections to define a seismic event. The 90 per cent detection threshold ranges from below 3.0 in parts of Europe and North America to above 3.4 in continental parts of the southern hemisphere.

The detection threshold is slightly higher in the ocean areas, but an explosion in the ocean would be subject to detection by hydroacoustic sensors. Based on GSETT-3 experience, it could be possible to design future monitoring networks with predefined detection thresholds and location accuracies, using computer simulations.

The experimental IDC will not provide identification of detected seismic events, but will calculate and compile agreed parameters characterizing the detected signals that may assist participating countries in identifying the source of each seismic disturbance.

The GSE expects GSETT-3 to represent a major contribution to the advancement of a prototype operational ISMS. Nevertheless, it is important to note that as an experimental system, the global network in operation during GSETT-3 will not provide all the capabilities that might be required by a seismic monitoring system under a future CTBT.

Chapter 4

Matters of Organization and Cost

Organization of GSETT-3

The organization responsible for the oversight of the Group of Scientific Experts Third Technical Test (GSETT-3) is presented in Fig. 4. The Coordinators of GSETT-3 are the GSE's Chairman, Dr. Ola Dahlman of Sweden, and its Scientific Secretary, Dr. Frode Ringdal of Norway. It is primarily through the Coordinators that the plans and results of the test will be communicated to the Conference on Disarmament and the Ad Hoc Committee on a Nuclear Test Ban.

Reporting to the Coordinators are the Working Groups on Planning, Operations and Evaluation, each with an important and distinct responsibility for overseeing the work of GSETT-3. Each Working Group is lead by a Convenor, is staffed with a small number of officially-designated members, and can call upon other GSE participants to support important tasks. The Convenors are Dr. Svein Mykkeltveit of Norway (Working Group on Planning), Dr. Ken Muirhead of Australia (Working Group on Operations) and Dr. Bernard Massinon of France (Working Group on Evaluation). The responsibilities of each group are described in the Progress Report of the GSE's thirty-seventh session (CD/1245).

Working under the guidance of the Working Groups are the organizations responsible for the actual conduct of GSETT-3 (Fig. 5). The central operational facility is the IDC, which is organized into four offices under the management of a Director. The Office of Administration is responsible for finance, personnel, meeting support, visitor support, language services, travel, publications, public information, and office services. The Office of Infrastructure Operations is responsible for the operation and maintenance of the facilities, computers, systems software, global communications, data acquisition, data management, data provision and security.

The Office of Monitoring Operations is responsible for monitoring seismic network operations, and performing automated processing and interactive analysis of the incoming data. The Office of Technical Support is responsible for internal system evaluation, system optimization, software development, documentation and testing. Each NDC will be organized differently, according to its own national verification requirements. However, their international responsibilities during GSETT-3 include the operation of national Alpha and Beta stations to GSE standards, performance of designated system evaluation tasks, and the voluntary provision of Gamma data to the IDC.

Cost Estimates for GSETT-3

The GSE has made an analysis of the overall costs of GSETT-3 and has reported the initial results to the Conference on Disarmament (CD/1211). The costs fall into three general categories. First, there are the previous investments. The ISMS being tested in GSETT-3 draws heavily on these prior investments in facilities for global monitoring of nuclear explosions and seismicity which have been developed on a national basis or as the result of

cooperation between countries. Second, there are new investments that are being undertaken specifically in preparation for GSETT-3, including installation and improvement of seismic stations, communications, and processing systems at the IDC. Third, there are the ongoing costs for the operation and maintenance of all the elements of the ISMS during GSETT-3.

The following table summarizes the costs for the ISMS during GSETT-3 in these categories:

Element	Prior Investment	New Investment	Annual Operating Costs
Alpha Network	\$97 M	\$14 M	\$7 M
Beta Stations	\$10 M	\$4 M	\$4 M
Communications	\$10 M	\$1 M	\$8 M*
International Data Centre	\$30 M	\$8 M	\$7 M
Total	\$147 M	\$27 M	\$26-30 M

* Preliminary, could be up to \$12 Million.

As seen from the above table, considerable investment has already been made in developing the facilities to be used in the GSETT-3. The total investment to date totals about 150 million U.S. dollars, and a total new investment of about 27 million U.S. dollars is planned on the GSETT-3 facilities in the near future. The annual operating cost for GSETT-3 is about 26-30 million U.S. dollars, with the cost of the Alpha network, the communications, and the IDC operations being about equal. No cost estimates have been made for investment in the operation of the NDCs, including the provision of Gamma data for GSETT-3.

The Alpha network will be composed of about 30 arrays and about 25 three-component seismic stations. New investment in facilities will include the installation of five new arrays and the upgrade of about 15 three-component stations. Currently available facilities will be used as much as possible. The costs for the installation of seismic facilities, both in the prior investments and for the new investments, can vary considerably from site to site. It is expected that the average cost to install the new arrays for GSETT-3 will be about 2-3 million U.S. dollars.

Annex 1

Technical Characteristics of a Standard ISMS Station

A standard ISMS three-component station would consist of the following elements:

- Three-component broadband seismometers
- A data acquisition system with digitizers to convert the seismometer output signals into digital form and modules for placing authentication signatures into the data stream;
- Electronics for very accurate synchronization to Universal Time;
- A system for transmitting data continuously to (Alpha stations only) or making data available for automatic retrieval (Beta stations) by the IDC, as well as managing the flow, calibration and archival of the data.
- Devices for data archiving;
- Communication interfaces for data transmission to NDCs and the IDC; and
- Data channels for additional input signals (e.g. wind indicators, temperature, and other environmental data) and station status indicators.

Some of the data handling facilities may be at the NDC rather than at the station.

A standard ISMS array would consist of all of the elements above plus additional vertical component short-period sensors distributed to enhance the signal-to-noise ratio and to provide azimuth and phase identification information.

Detailed station requirements that are recommended for a standard ISMS station are given in Table 1. This table is not phrased in layman's language, and serves to illustrate the level of detail needed to specify technical requirements for the elements of a seismic monitoring system.

Category	Requirement
Pass Band	.02-20 Hz (Alpha and Beta)*
Seismometer Noise	10 dB below Peterson's low earth noise model
Calibration	within 5% in amplitude and 5° in phase
Sample Rate	40 samples per second ($\pm 50 \mu\text{s}$)
Resolution	18 dB below Peterson's low noise model
Sensitivity	200 counts/nm @ 3 Hz
System Noise	10 dB below Peterson's low earth noise curve
Dynamic Range	126 dB
Linearity	90 dB over the pass band
Timing Accuracy	1 ms (Network standard timing required)
Operating Temperature	-10° C to 45° C
Authentication	required
State of Health	a minimum of clock status, calibration status, and vault status
Format	must be one of the official GSE formats
Protocol	TCP/IP (Beta)
Delay in Transmission	< 15 seconds
Data Frame Length	< 1 second
Data Access	Priority given to IDC, then NDC
Disk Buffer	7 days
Data Availability	greater than 99%
Timely Data Availability	greater than 98%
Station Location	known within 100 m; relative location of array elements known to within 1 metre
Seismometer Orientation	known within 1 degree

* 8.0 Hertz for stations with "unique" capabilities

Table 1. Station requirements for an ISMS standard station (from CD/1211).

Annex 2

GSE Reports to CD

CCD / 558	March 1978	- initial concept and design
CD / 43	July 1979	- technical elaboration
CD / 448	March 1984	- technical elaboration
CD / 720	July 1986	- report on GSETT - 1
CD / 903	March 1989	- revised concept
CD / 1144	March 1992	- report on GSETT - 2

Category	Description
Peak Read	12 to 14 (Able to say)
Seismometer Noise	10 dB below Patrick's low noise noise model
Calibration	within 5% in amplitude and 2% in phase
Sample Rate	40 samples per second (1000)
Resolution	16 bit (range 0 to 65535)
Sampling	200 samples
Time Base	1000 samples (1000)

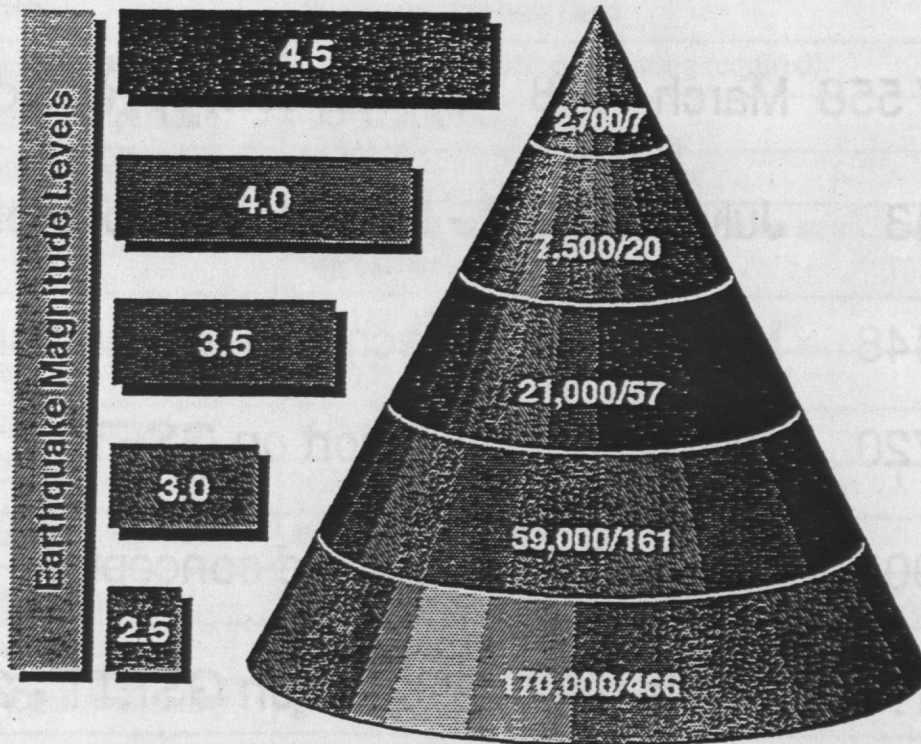


Fig.1. Average number of earthquakes per year/day at a given magnitude or greater

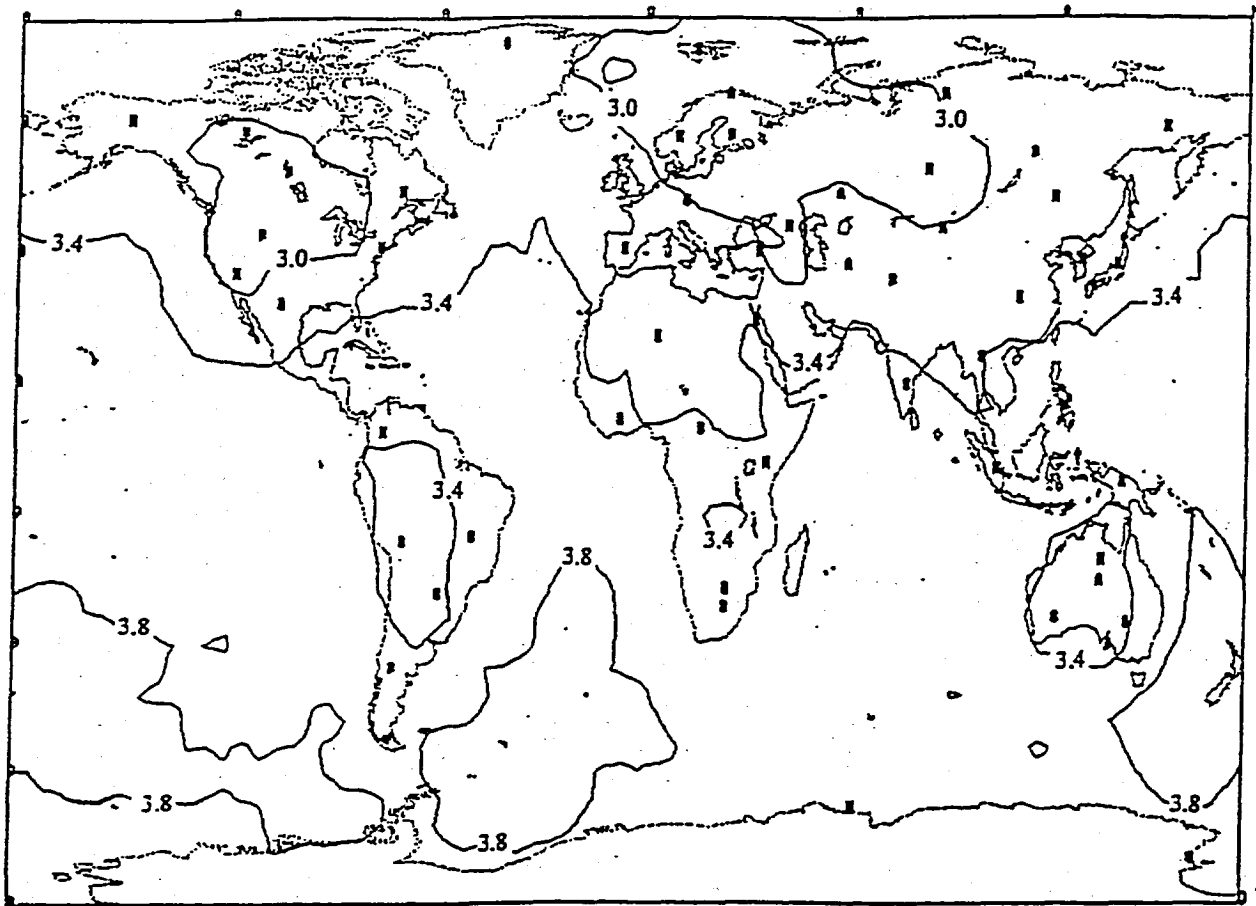


Fig. 3. Estimated event detection capability for the proposed GSETT-3 network in terms of seismic magnitude. The contours indicate 3.0, 3.4 and 3.8 detection thresholds (90% probability for detection at 3 or more stations). In parts of Europe and North America the detection threshold is below 3.0 and in some continental areas of the southern hemisphere it is above 3.4.

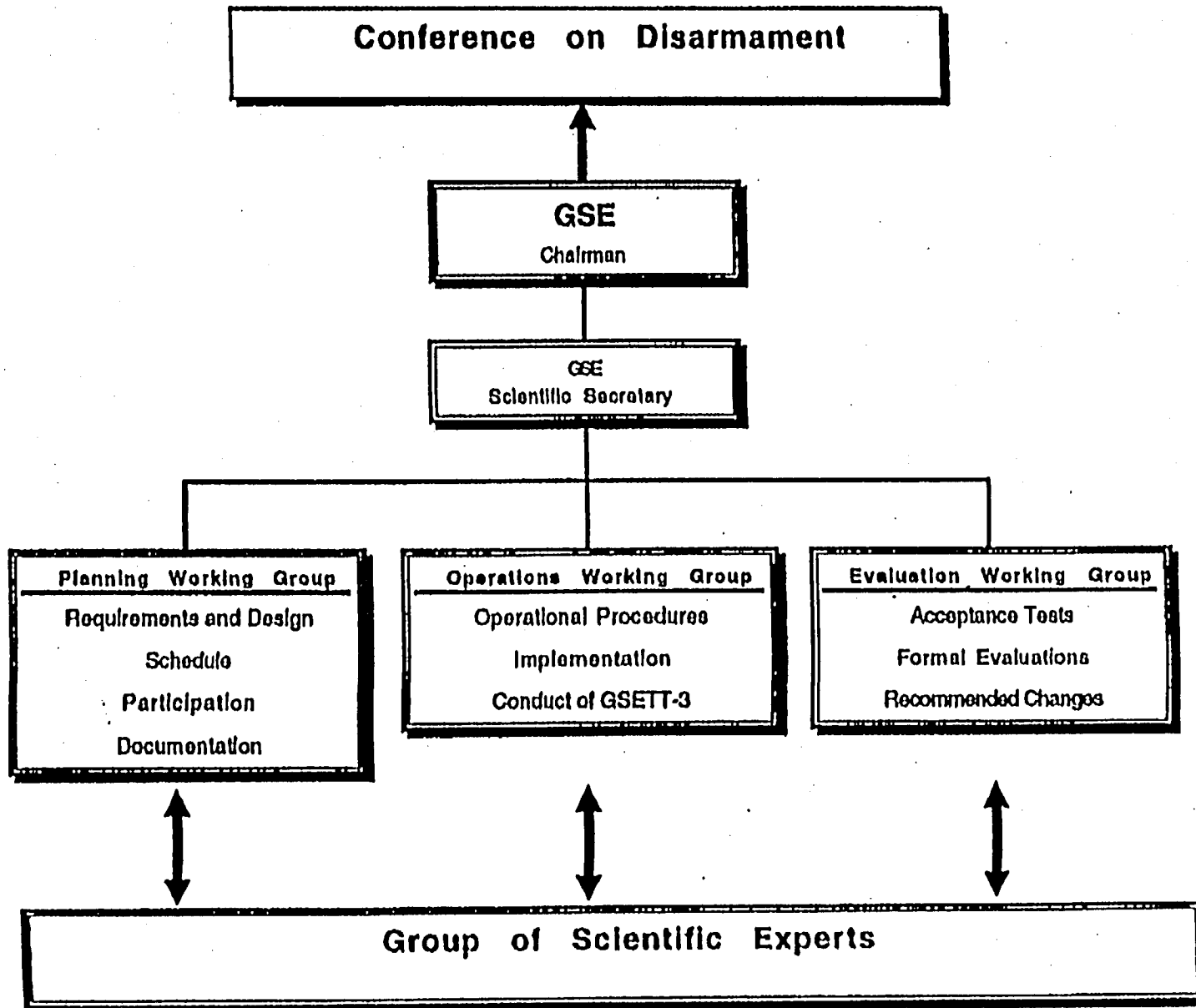


Fig. 4. Organization for the oversight of GSETT-3.

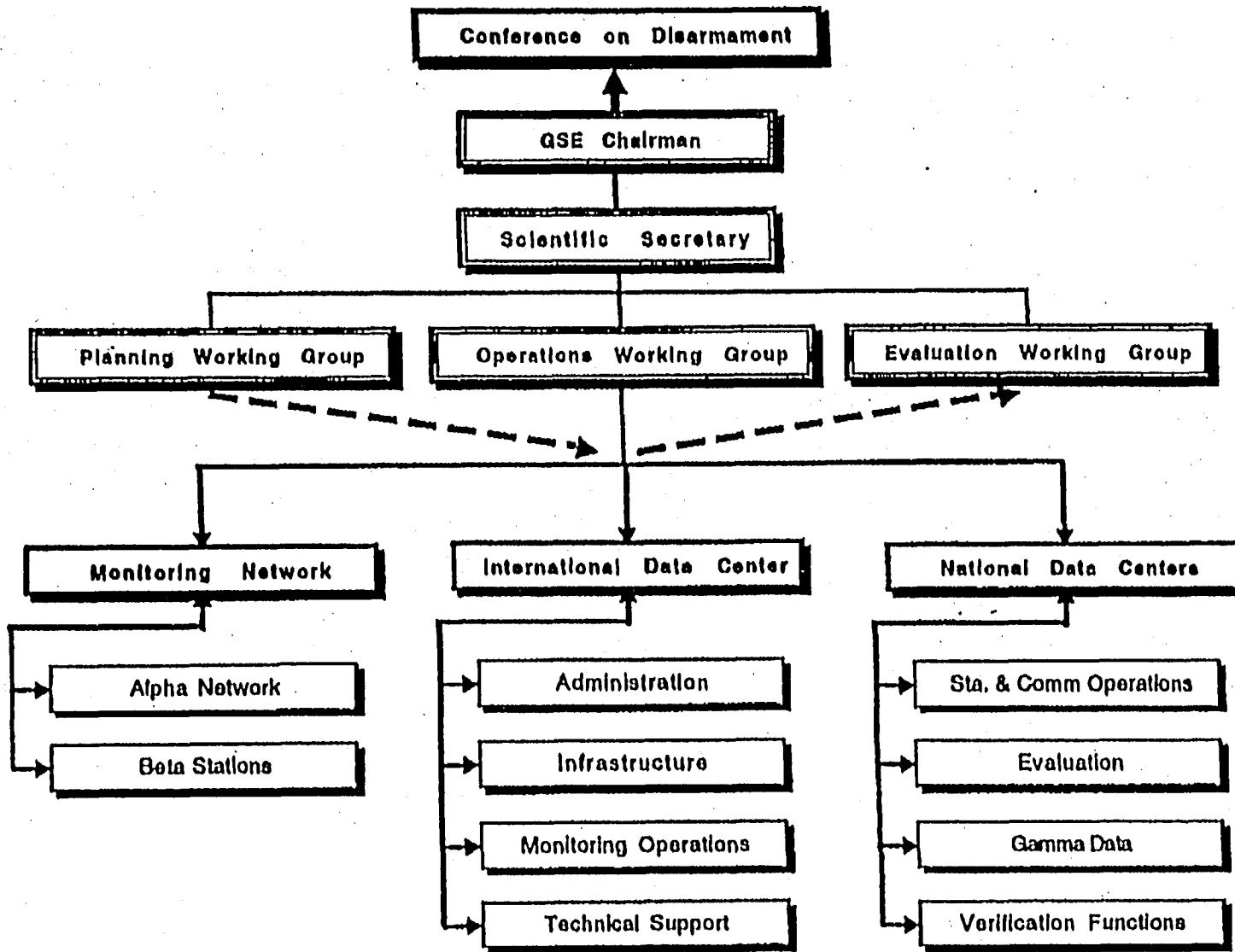


Fig. 5. Organization for the conduct of GSETT-3.

CONFERENCE ON DISARMAMENT

CD/1255
CD/NTB/WP.51
30 March 1994

ENGLISH
Original: CHINESE

LETTER DATED 30 MARCH 1994 FROM THE HEAD OF THE DELEGATION OF THE PEOPLE'S REPUBLIC OF CHINA ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT TRANSMITTING THE TEXT OF A DOCUMENT ENTITLED "BASIC STRUCTURE OF A COMPREHENSIVE TEST-BAN TREATY"

I have the honour to transmit to you herewith the text of a document of the Chinese delegation entitled "Basic Structure of a Comprehensive Test-Ban Treaty", which was first put forward by the Chinese delegation as an informal paper on 23 February.

I would be grateful if this document could be circulated as an official document of the Conference on Disarmament and as a Working Paper of the Ad Hoc Committee on a Nuclear Test Ban.

(Signed) HOU Zhitong
Ambassador for
Disarmament Affairs
Head of the Delegation
of the People's Republic
of China to the
Conference on Disarmament

Chinese delegation

Basic structure of a comprehensive test-ban treaty

Preamble

1. Scope of Prohibition
2. Definition
3. Declaration
4. Activities not Prohibited Under this Treaty
5. Peaceful Uses of Nuclear Energy and Peaceful Nuclear Explosions
6. Non-Nuclear Explosions (Chemical Explosions)
7. Security Guarantees for States Parties
8. Organization
9. National Implementation Measures
10. Consultations, Cooperation and Fact-finding
11. Verification
12. Technological Cooperation and Development
13. Relation to Other International Agreements
14. Measures to Redress a Situation and to Ensure Compliance
15. Settlement of Disputes
16. Privileges and Immunities
17. Status of the Annexes
18. Signature
19. Ratification
20. Accession
21. Entry into Force
22. Reservations
23. Duration and Withdrawal
24. Review of the Treaty
25. Amendments
26. Depositary
27. Authentic Texts and necessary annexes

The Chinese delegation believes the above topics require thorough and painstaking discussion and negotiation in the Ad Hoc Committee on a Nuclear Test Ban and its two working groups. The delegation is also willing to consider and discuss clauses put forward by other delegations.

CONFERENCE ON DISARMAMENT

CD/1261
9 June 1994

Original: ENGLISH

(EXTRACT)

LETTER DATED 9 JUNE 1994 FROM THE PERMANENT REPRESENTATIVE OF EGYPT
ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT
TRANSMITTING THE RELEVANT PART OF THE FINAL DOCUMENT ON DISARMAMENT
AND INTERNATIONAL SECURITY OF THE ELEVENTH MINISTERIAL MEETING OF
THE NON-ALIGNED MOVEMENT WHICH TOOK PLACE IN CAIRO, EGYPT
(31 MAY TO 3 JUNE 1994)

I have the honour to inform you that the Eleventh Ministerial Meeting of
the Non-Aligned Movement took place in Cairo, Egypt from 31 May to
3 June 1994.

The meeting discussed issues related to disarmament and international
security, and a final document was issued which addresses, inter alia, various
questions that have a direct bearing on the work of the Conference on
Disarmament.

I have enclosed herewith a copy in English of Part 5 of the final
document which deals with "Disarmament and International Security".

I would kindly request that the enclosed document be issued as an
official document of the Conference on Disarmament.

(Signed): Dr. Mounir ZAHRAN
Ambassador
Permanent Representative of the
Arab Republic of Egypt

V. DISARMAMENT AND INTERNATIONAL SECURITY

...
38. The Ministers called on all States and urged the Conference on Disarmament in particular to successfully conclude a universal, internationally and effectively verifiable comprehensive Nuclear-Test-Ban Treaty, without any provision for exceptions, as a matter of the highest priority. Pending the conclusion of such a Treaty, the nuclear weapon States should suspend all nuclear test explosions.

39. The Ministers noted that a Special meeting of the States parties to the Partial-Test-Ban Treaty was held on 10 August 1993. They welcomed the continuing efforts of the President of the PTBT Amendment Conference to ensure a complementary relationship between that forum and the Conference on Disarmament in the achievement of a multilateral comprehensive test-ban agreement.

CD/1261

page 3

...
49. The Ministers noted that accession to the Treaty on the Non-Proliferation of Nuclear Weapons had increased in recent years and that the States parties to the treaty would hold a Review/Extension Conference in 1995, also noted with satisfaction that a member of the Movement would chair the Conference as

CD/1261

page 4

called for by the Jakarta Declaration. The Ministers called for a fresh appraisal of the fulfilment of the obligations of the nuclear-weapon States under Article VI of the Treaty and expressed the hope that any pending issues relevant to the Treaty shall be overcome, including the provision of credible security assurances and adequate technical assistance to all non-nuclear-weapon States, to ensure the availability of nuclear materials, equipment and technology for peaceful purposes on a non-discriminatory, predictable and long-term basis. They called for States parties to the Treaty in the Movement to convene a senior officials meeting to coordinate their positions in preparation for the 1995 Conference.

CONFERENCE ON DISARMAMENT

CD/1262
CD/NTB/WP.120
16 June 1994

Original: ENGLISH

LETTER DATED 15 JUNE 1994 FROM THE REPRESENTATIVE OF THE
UNITED STATES OF AMERICA TO THE CONFERENCE ON DISARMAMENT
ADDRESSED TO THE DEPUTY SECRETARY-GENERAL OF THE CONFERENCE
ON DISARMAMENT TRANSMITTING A STATEMENT MADE ON 13 JUNE 1994
TO THE AD HOC COMMITTEE ON A NUCLEAR TEST BAN

I have the honour to forward to you a statement which I made on 13 June to the Nuclear Test Ban Ad Hoc Committee, concerning a nuclear test carried out by China on 10 June 1994.

Could you please take the appropriate steps to register this statement as an official document of the Conference on Disarmament, and have it distributed to all member delegations and non-member States participating in the work of the Conference.

(Signed) Stephen J. Ledogar
Ambassador

I would like to read out the text of a White House statement, issued in Washington on 10 June:

"On 10 June, China conducted an underground nuclear test at the Lop Nor test site in Northwest China. The United States deeply regrets this action. We urge China to refrain from further nuclear tests and to join the other nuclear powers in a global moratorium as we work to complete a Comprehensive Test Ban (CTB) Treaty at the earliest possible time."

As I informed the Conference on Disarmament this past 17 March, President Clinton, in a report to Congress on 14 March, stated that he was extending the moratorium on nuclear testing by the United States through September 1995. The President's decision was based on fundamental United States national security interests, weighing the contribution further tests would make to improving the safety and reliability of the United States arsenal in preparation for a comprehensive test ban against such factors as: the restraint the other declared nuclear powers have shown in not responding to China's nuclear test of October 1993 with tests of their own; the encouraging progress recorded in the CTB negotiations since they formally opened on 25 January of this year; and the adverse implications further United States nuclear tests would have on our broader non-proliferation objectives, including, most notably, our interest in securing the indefinite extension of the Nuclear Non-proliferation Treaty next year.

The President will decide next year whether to extend the moratorium beyond September 1995, taking into account the same factors noted above.

The United States remains firmly committed to achieving, at the earliest possible time, a Comprehensive Test-Ban Treaty. In fact, all of the nuclear powers - including China - have committed themselves to achieving a CTBT. In this regard, we are very pleased that Russia, France and the United Kingdom have shown continued restraint, despite Chinese testing. We would note that the restraint shown by the other nuclear powers, together with the encouraging progress in the CTBT negotiations here in Geneva and the benefits which we believe the moratorium will have for our broader non-proliferation objectives, all contributed to President Clinton's decision in March to extend the United States moratorium through September 1995.

For these reasons we once again urge China to refrain from further nuclear tests and to join the other nuclear powers in a global moratorium as we work to complete a CTBT at the earliest possible time. This test only serves to emphasize the importance of moving ahead with the negotiations here in Geneva as quickly as possible.

CONFERENCE ON DISARMAMENT

CD/1263
CD/NTB/WP.121
16 June 1994

ENGLISH
Original: CHINESE/ENGLISH

LETTER DATED 15 JUNE 1994 FROM THE HEAD OF THE DELEGATION
OF THE PEOPLE'S REPUBLIC OF CHINA TO THE CONFERENCE ON
DISARMAMENT ADDRESSED TO THE PRESIDENT OF THE CONFERENCE
ON DISARMAMENT TRANSMITTING THE TEXT OF A STATEMENT MADE
ON 10 JUNE 1994 BY THE SPOKESMAN OF THE FOREIGN MINISTRY
OF THE PEOPLE'S REPUBLIC OF CHINA

I have the honour to transmit to you herewith the text of a statement
made on 10 June 1994 by the Spokesman of the Foreign Ministry of the People's
Republic of China.

I would be grateful if this document could be circulated as an official
document of the Conference on Disarmament and a working paper of the NTB
Ad Hoc Committee.

(Signed): Hou Zhitong
Ambassador for
Disarmament Affairs
Head of the Delegation
of the People's Republic
of China to the
Conference on Disarmament

Statement by the Spokesman of the Foreign Ministry
of the People's Republic of China
(10 June 1994)

On 10 June 1994, China conducted an underground nuclear test.

China has consistently favoured the complete prohibition and total destruction of nuclear weapons and, within this context, the introduction of a comprehensive nuclear test ban. Proceeding from this fundamental position, it has always exercised great restraint in conducting nuclear tests and the number of nuclear tests it has conducted is extremely limited.

China fully respects and understands the position and concern of the many non-nuclear weapon States on the question of nuclear testing. At this moment it is participating in negotiations on a comprehensive nuclear test ban treaty, and it supports the idea that the negotiations should result in a treaty no later than 1996. The treaty should be a step towards the complete prohibition and total destruction of nuclear weapons. We call on other nuclear-weapon States to give up their policy of nuclear deterrence and commit themselves explicitly to the complete prohibition and total destruction of nuclear weapons. We are ready to continue our unremitting efforts alongside the international community for the early realization of this ultimate goal.

CONFERENCE ON DISARMAMENT

CD/1264
28 June 1994

Original: ENGLISH

LETTER DATED 21 JUNE 1994 FROM THE DEPUTY PERMANENT REPRESENTATIVE OF CANADA ADDRESSED TO THE DEPUTY SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING A VERIFICATION SUBJECT INDEX TO CD WORKING PAPERS ON THE NUCLEAR TEST BAN ISSUE 1/

I have the honour to transmit to you a verification subject index to CD working papers on the Nuclear Test Ban issue, covering the period 1976-1993. When combined with the earlier three compendia of CD documents to support the negotiations on a Comprehensive Test Ban Treaty (CTBT) covering years 1990-1993, which have already been made available to CD delegations, this subject index may contribute to the negotiation process.

This document, as well as the previous ones, have been also distributed to selected researchers.

I would be grateful if the necessary arrangements could be made for its distribution to all member and participating non-member State delegations, under cover of a CD number.

(Signed): Paul Dubois
Minister and Deputy Permanent
Representative to the Conference
on Disarmament

1/ A limited distribution of this publication in English only has been made available to the members and non-members invited to participate in the work of the Conference on Disarmament. Additional copies are available from the Permanent Mission of Canada.

CONFERENCE ON DISARMAMENT

CD/1266
CD/NTB/WP.140
6 July 1994

Original: ENGLISH

LETTER DATED 4 JULY 1994 FROM THE PERMANENT REPRESENTATIVE OF INDIA, IN HIS CAPACITY AS COORDINATOR OF THE GROUP OF 21 ON THE ITEM "NUCLEAR TEST BAN", ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT TRANSMITTING THE TEXT OF A STATEMENT BY THE GROUP OF 21 ON A COMPREHENSIVE NUCLEAR TEST BAN TREATY

In my capacity as Coordinator of the Group of 21 on the item "Nuclear Test Ban", I have pleasure in submitting herewith a Group of 21 Working Paper entitled "Group of 21 statement on a Comprehensive Nuclear Test Ban Treaty".

I would be grateful if this Working Paper could be distributed as an official document of the Conference on Disarmament as well as a Working Paper of the Ad Hoc Committee on a Nuclear Test Ban.

(Signed): Satish Chandra
Ambassador
Permanent Representative of India

Working Paper

Group of 21 statement on Comprehensive Test Ban Treaty (CTBT)
in the Ad hoc Committee on Nuclear Test Ban on 1st July, 1994

The G-21 had stated in its two Working Papers CD/1231 and D/1252 that negotiations of a Comprehensive Test Ban Treaty (CTBT) should be concluded in 1994. The Group has also conveyed its own views that the verification regime of CTBT should be internationally supervised and technically effective. Moreover, it is important that this verification regime should also be cost effective.

At this crucial stage of negotiations, the Group is satisfied to note that seismic technique has been approved by the Working Group I on Verification. It has also noted that following the pattern of last year, there have been extensive and relevant expert presentations on non-seismic techniques for a CTBT in Working Group I. At present, the Group feels that many expert presentations have helped the delegations to judge on the issue of non-seismic techniques to be incorporated in the CTBT. These presentations have further strengthened the views of the G-21 as stated in its Working Paper No. CD/1252 that an evolutionary approach to the verification regime is preferable.

The organisation of a CTBT should promote cooperation and assistance among the State Parties to enable them to use the technology of the verification system for the effective implementation of the Treaty.

Secondly, it is essential that the organisation of a future CTBT should exchange and analyse seismic and non-seismic data. This is relevant because the majority of States may not be in a position to analyse the data. This point has already been mentioned in the Group's working Paper No. CD/1252. The Technical Secretariat should have the capacity and the responsibility of analysing not only the data received from the global monitoring system but also from the National Technical Means (NTM). The inter-governmental body(ies) of the organisation should be responsible for decision in this regard.

The Group of 21 welcomes the papers dated 29th June, 1994 submitted by the Chairmen of the two Working Groups on Verification and Legal and Institutional Issues respectively. Negotiations should now be based on the draft treaty language. This should lead to formation of a rolling text.

CONFERENCE ON DISARMAMENT

CD/1268
CD/NTB/WP.148
5 August 1994

Original: ENGLISH

LETTER DATED 4 AUGUST 1994 FROM THE PERMANENT REPRESENTATIVE OF AUSTRIA
ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT CONFIRMING
THE READINESS OF THE FEDERAL GOVERNMENT OF AUSTRIA TO HOST THE FUTURE
COMPREHENSIVE TEST-BAN TREATY ORGANIZATION (CTBTO) IN VIENNA

I have the honour to confirm herewith that the Federal Government of Austria is ready to host the future Comprehensive Test-Ban Treaty Organization (CTBTO) in Vienna. This offer is valid for all future organs of the Organization including an International Data Centre (IDC). If it were decided to establish a Preparatory Commission for the purpose of carrying out the necessary preparations for the implementation of a future Comprehensive Test-Ban Treaty (CTBT), this body would also be welcome to take up its work in Vienna.

It is our view that a CTBTO will operate most efficiently and cost-effectively either within or in close proximity to the International Atomic Energy Agency (IAEA). Thus, this offer is considered by my authorities to be a logical consequence of the current state of negotiations in the Ad Hoc Committee on a Nuclear Test Ban.

It goes without saying that Austria would take all necessary measures in order to ensure the establishment of a future CTBTO at best conditions, i.e. in analogy to those which apply to the international organizations having already set up their headquarters in Vienna.

I would be grateful if you could see that this letter be circulated, both as a working paper of the above-mentioned Committee and as an official document of the Conference on Disarmament.

(Signed) Prof. Winfried Lang
Ambassador

CONFERENCE ON DISARMAMENT

CD/1270
19 August 1994

Original: ENGLISH

PROGRESS REPORT TO THE CONFERENCE ON DISARMAMENT
ON THE THIRTY-NINTH SESSION OF THE AD HOC GROUP OF
SCIENTIFIC EXPERTS TO CONSIDER INTERNATIONAL COOPERATIVE
MEASURES TO DETECT AND IDENTIFY SEISMIC EVENTS

1. The Ad Hoc Group of Scientific Experts to Consider International Cooperative Measures to Detect and Identify Seismic Events, initially established in pursuance of the decision taken by the Conference of the Committee on Disarmament on 22 July 1976, held its thirty-ninth formal session from 8 to 19 August 1994, in the Palais des Nations, Geneva, under the Chairmanship of Dr. Ola Dahlman of Sweden. This was the thirty-first session of the Group, convened under its new mandate by the decision of the Committee on Disarmament at its 48th meeting on 7 August 1979.
2. The Ad Hoc Group is open to all member States of the Conference on Disarmament. It is also open on a standing basis to all non-member States which have been invited upon their request by the Conference on Disarmament to participate in its work. Accordingly, scientific experts and representatives of the following member States of the Conference on Disarmament participated in the session: Argentina, Australia, Belgium, Bulgaria, Canada, China, Egypt, France, Germany, Hungary, India, Iran (Islamic Republic of), Italy, Japan, Netherlands, Pakistan, Peru, Poland, Russian Federation, Sweden, United Kingdom of Great Britain and Northern Ireland and the United States of America.
3. Scientific experts and representatives from the following non-member States of the Conference on Disarmament participated in the session: Austria, Czech Republic, Denmark, Finland, Israel, Republic of Korea, New Zealand, Norway, South Africa, Spain and Switzerland.
4. During the session 39 papers containing information on national investigations related to the work of the Group were presented by experts from: Argentina, Australia, Austria, Belgium, Bulgaria, Canada, Czech Republic, Denmark, Finland, France, Germany, Hungary, India, Italy, Japan, New Zealand, Norway, Peru, Russian Federation, South Africa, Spain, Sweden, Switzerland, United Kingdom and United States of America.
5. The session was devoted to continuing the preparations for the upcoming full scale phase of the Ad Hoc Group's third Technical Test (GSETT-3), which is an effort to develop, test and evaluate new concepts for an experimental International Seismic Monitoring System. A report summarizing the knowledge and experience on GSETT-3, including the overall concept of GSETT-3, the functions and components of the system and matters of organization and cost has previously been presented to the Ad Hoc Committee on a Nuclear Test Ban and is provided to the Conference on Disarmament as document CD/1254.
6. The current plans call for the full-scale phase of IDC operation during GSETT-3 to begin by 1 January 1995. The Group reviewed its schedule to meet this date presented in CD/1245 and noted that the work is

progressing. Particularly noteworthy is the rapid progress in developing and conducting operations at the IDC. Plans for conducting and evaluating GSETT-3 have been developed in considerable detail. The remaining tasks are as follows (note that the various versions of the experimental International Data Center (IDC) are explained in CD/1245)

- August-October 1994: Continue step-by-step implementation of stations, communications network and national facilities
- Operate IDC Version 2a
- October 1994: IDC Version 2b implemented
- October-December 1994: Coordinate participation of countries and stations
- Coordinate elements of the experimental system
- Conduct quality assurance evaluation of the IDC
- 1 January 1995: IDC Version 3 implemented
- Begin full-scale tests
- Begin evaluation of performance

7. The Ad Hoc Group recognizes that not all of the seismological stations envisaged for participation in GSETT-3 will be ready to provide data to the IDC by 1 January 1995. Nevertheless, the Group considers that the number of stations already committed, or expected to be committed during the remainder of 1994, will permit full-scale testing by that date.

8. Although it is recognized that the commitments required from participating States will involve allocation of considerable resources, it is difficult to give any precise indication of the duration of the GSETT-3 experiment. For financial planning purposes, countries participating in GSETT-3 should be prepared to support their national facilities and their communication links for a minimum of 1 year after the start of the full scale experiment.

It is of particular importance to ensure financial resources for continuous data transmission, and for operation of other facilities during GSETT-3. Countries are encouraged to assist by providing technical and financial assistance in these areas to other countries whose participation is essential.

9. A summary of the current status of participation of countries with seismological stations or with gamma data for GSETT-3 is given in Annex I. This Annex also lists countries from which commitments are still lacking for either Alpha or Beta stations.

10. The Ad Hoc Group has now defined an Alpha station network of 58 stations in 34 countries out of which 38 stations in 17 countries are currently committed for participation in GSETT-3. Efforts are now concentrating on obtaining commitments for the remaining stations. The number of Alpha stations contributing data to the IDC has increased from 6 (in February) to 12 today and is expected to further increase to around 23 by the end of August.

11. The Ad Hoc Group has received information from 29 countries on plans for a total of 93 Beta stations, out of which 76 stations in 22 countries are already committed for participation in GSETT-3. To ensure adequate global coverage of the Beta station network, the Chairman of the Ad Hoc Group has approached 21 countries - mostly countries not represented in the Ad Hoc Group - asking for consent to use data from stations already in existence in these countries, for the purposes of GSETT-3. The number of Beta stations contributing data to the IDC has increased from 13 in February to 21 today.
12. The Ad Hoc Group conducted in-depth discussions of the results of the three working groups that it has established to deal with the planning, operation and evaluation of GSETT-3. Several meetings of these working groups were held during the session. Summaries of the status of the efforts of these three working groups are annexed to this progress report.
13. A complete draft version of the overall GSETT-3 documentation, including the plan for GSETT-3 operational manuals factual description of facilities to be used, an evaluation plan and a number of technical annexes, was prepared. This voluminous documentation (more than 500 pages) forms the basis for operations manuals and procedures for GSETT-3. It will also contain technical summaries of IDC and station operations and ongoing evaluation results during GSETT-3. Previous experience has shown that documentation of this type is essential. The documentation will be revised along the way, with a complete updated set distributed before 1 January 1995, and with the most current version at any time being electronically available on-line for the participants during GSETT-3.
14. In accordance with the schedule given in CD/1245, operation of Version 1 of the GSETT-3 IDC concluded on 30 June 1994. Subsequently, operation of Version 2A, which includes new participants, stations, software, hardware and processing objectives, began. International staffing of the IDC is an important objective of the Working Group on Operations. During the session applications for positions at the IDC were reviewed and qualified applicants were selected. Offers will be extended to the successful applicants.
15. The Working Group on Evaluation has concluded that much of the information required to evaluate GSETT-3 could be provided by the IDC. However, many of the tasks outlined in the evaluation volume of the GSETT-3 documentation can only be carried out at NDCs or through national investigations. The Working Group, seeking to obtain wider participation in these efforts, distributed a questionnaire during the session, asking national delegations to contribute. Positive responses from 25 countries were received. The Working Group also reached agreement on the evaluation volume of the documentation and on the evaluation format.
16. The Ad Hoc Group received and appreciated a briefing from the Chairman of the Nuclear Test Ban Committee's Working Group on Verification.
17. The Ad Hoc Group noted with appreciation the convening of an informal technical workshop on preparations for GSETT-3 in Alexandria, Virginia, USA from 25 through 29 April 1994. The workshop was attended by 28 participants from 12 countries. The Working Group on Evaluation met during the workshop, and also visited the IDC. Draft material compiled by those who participated in this workshop contributed significantly to the concepts and procedures embodied in the GSETT-3 documentation being prepared by the GSETT-3 Working Groups.
18. The Ad Hoc Group received a letter from the International Seismological Centre (ISC) proposing cooperation between the Group and ISC. Specifically, the ISC requests to receive the GSETT-3 bulletin and seismic phase data on a regular basis. The Ad Hoc Group agreed in principle to

provide these data to the scientific community in a suitable manner and at a suitable time. The Group appreciated the offer of Ms. Hilary Trodd of the UK to act as a contact person with the ISC.

19. The Ad Hoc Group suggests that its next session, subject to approval by the Conference on Disarmament, should be convened from 20 February to 3 March 1995. The main task during this session will be to review and evaluate initial results from the full-scale phase of GSETT-3. A draft work program is presented in Annex V.

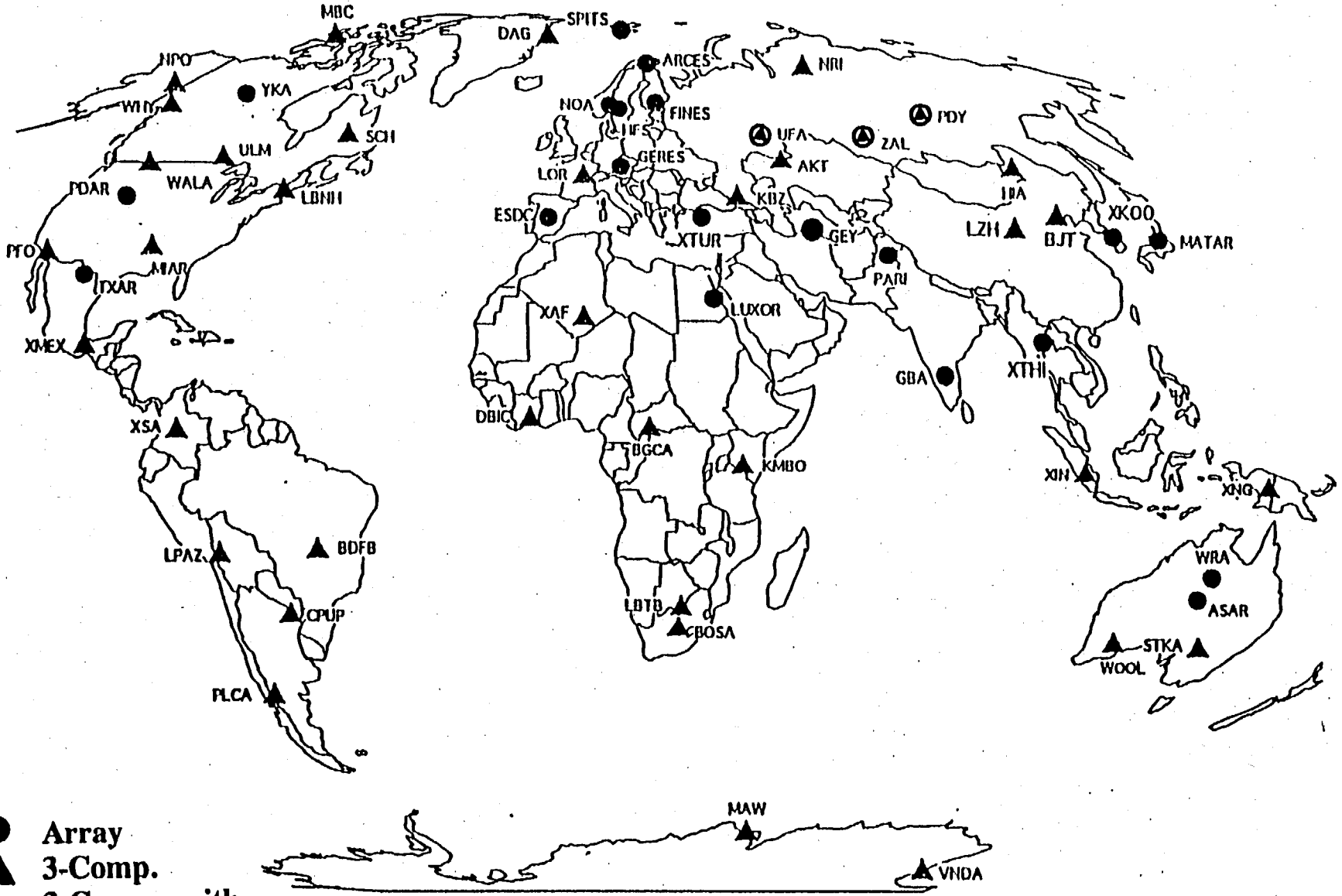
Annex I: Status of GSETT3 Station and Gamma Data Commitments

Country	Alpha Stations Envisaged by GSE	Beta Stations Offered	Station Commitment Status	Date Available to the IDC	Gamma Data Committed
Argentina	1	-	committed	Dec. 1994	yes
Australia	5	11	committed	Aug./Sept.1994	yes
Austria	0	1	lacking	unknown	-
Belgium	0	0	not applicable	not applicable	yes
Bolivia	1	-	lacking	unknown	-
Botswana	1	-	lacking	unknown	-
Brazil	1	0	committed	unknown	-
Bulgaria	0	1	committed	July 1995	yes
Canada	6	18	committed	Now/Sept. 1994	yes
Can. Afr. Republic	1	-	committed	unknown	-
China	3	1	lacking	unknown	-
Cook Islands	0	1	committed	now	-
Czech Republic	0	1	committed	Sept. 1994	yes
Denmark	1	0	lacking	July 1995	yes
Egypt	1	0	lacking	unknown	-
Finland	1	4	committed	now/Nov. 1994	yes
France	1	0	committed	Jan. 1995	yes
Germany	1	9	lacking	unknown	-
Hungary	0	1	committed	now	yes
India	1	0	committed	unknown	-
Indonesia	1	-	lacking	unknown	-
Iran	0	1	lacking	June 1995	yes
Israel	0	1	lacking	Nov. 1994	-
Italy	0	2	committed	now	yes
Ivory Coast	1	-	lacking	unknown	-
Japan	1	7	committed	Sept. 1994	yes
Kazakhstan	1	-	lacking	unknown	-
Kenya	1	-	lacking	unknown	-
Rep. of Korea	1	-	lacking	unknown	-
Mexico	1	2	lacking	unknown	-
Netherlands	0	1	committed	Aug. 1994	yes
N. Africa (XAF)	1	-	lacking	unknown	-
New Zealand	0	1	committed	now	yes
Norway	3	1	committed	now/Oct. 1994	yes
Pakistan	1	1	committed	expect Jan.1995	-
Papua New Guinea	1	-	lacking	unknown	-
Paraguay	1	-	lacking	unknown	-
Peru	0	1	committed	Dec. 1994	-
Poland	0	1	lacking	unknown	yes
Romania	0	1	committed	Sept. 1994	yes
Russian Federation	5	5	committed	Jan. 1995	-
S. America (XSA)	1	-	lacking	unknown	-
South Africa	1	1	committed	Aug./ Dec. 1994	yes
Spain	1	2	committed	Jan. 1995	yes
Sweden	1	0	committed	Sept. 1994	yes
Switzerland	0	1	committed	Jan. 1995	yes
Thailand	1	-	lacking	unknown	-
Turkey	1	-	lacking	unknown	-
Turkmenistan	1	-	committed	unknown	-
United Kingdom	0	2	committed	Oct. 1994	yes
United States	7	12	committed	Aug.- Nov. 1994	yes
Western Samoa	0	1	committed	now	-
Zambia	0	1	lacking	unknown	-
TOTAL (Committed)	58 (38)	93 (76)	29 Countries		24



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- ⊕ 3-Comp., with array planned

PRELIMINARY GSETT-3 ALPHA NETWORK
AS OF 19 AUGUST 1994

ANNEX II

Status Report from GSETT-3 Working Group on Planning

GSETT-3 Documentation

The drafting of GSETT-3 Documentation has been prepared as draft CRP/243 and currently comprises five volumes, as detailed in paragraph 13 of this progress report. Agreement was reached on all essential issues in this draft version of CRP/243 during the discussions at the 39th session, and the GSETT-3 Working Groups through their convenors were given the authority to revise this draft in the light of comments made and agreement reached in the GSE.

The draft version of CRP/243 is open to comments and suggestions by GSE delegates until 1 September 1994. Such comments should be sent to the appropriate working group convenors. The working groups will complete their review and provide material to the GSETT-3 Documentation Editor by 15 September 1994. The revised CRP/243 will then be distributed to the GSE delegates by the GSETT-3 Documentation Editor prior to the start of the full-scale testing on 1 January 1995.

Volume 3 of the GSETT-3 Documentation will contain so-called Countrybooks, with detailed technical descriptions of the GSETT-3 facilities (seismic stations, communication arrangements, etc.) in participating countries. The designated technical point of contact in each country has received from the GSETT-3 Documentation Editor detailed instructions on how to provide the material needed, together with a Countrybook template. Those who have not already done so, are asked to provide the information requested as soon as possible. Countries that have not yet designated a technical point of contact should do so as soon as possible, and they will then receive the appropriate documentation.

GSETT-3 Participation

Alpha stations

The GSE has now defined an Alpha network of 58 stations in 34 countries. Currently there are commitments by 17 host countries for 38 of these stations. For another 8 stations (in China, Denmark, Egypt, Germany, Iran and Mexico), the GSE (or the Working Group on Planning) has received information that there are concrete technical plans to contribute to GSETT-3, but that the formal commitment is pending.

There are eleven countries (Bolivia, Botswana, Indonesia, Ivory Coast, Kazakhstan, Kenya, Republic of Korea, Papua New Guinea, Paraguay, Thailand and Turkey) with planned Alpha network stations on their territory that have not yet responded concretely to the various requests for cooperation and commitment. It is currently the highest priority task of the Working Group on Planning to assist the GSE Chair in approaching these countries one more time. In addition, the GSE has envisaged two stations (in northern South America and in the northern part of Africa, respectively) at locations that are yet to be determined. Work is under way to identify countries that could host these two stations.

Beta stations

To date, the GSE has received information about 93 planned Beta stations, out of which 76 in 22 countries are committed for participation in GSETT-3. The vast majority of these stations are in countries participating in the GSE sessions.

The GSE chairman has approached the FDSN (Federation of Digital Seismograph Networks) and asked them to identify, in cooperation with its member networks, stations that might be utilized for GSETT-3. So far, the FDSN member networks IRIS and GEOFON have provided positive responses to this request.

Through this process, many countries have been identified that have stations on their territory that would be of potential interest as Beta stations in GSETT-3. For such Beta network candidate stations, the GSE chairman is seeking formal commitment for participation in GSETT-3 in direct contact with the authorities of the countries concerned. For many such stations, data are already openly available, and the only issue is to obtain a consent to use the data in question for the purposes of GSETT-3. To obtain such commitment or consent, the GSE chairman has so far written to 21 countries. Countries that have previously presented plans for participation with Beta stations have so far not been asked to commit additional stations.

ANNEX III

Status Report from GSETT-3 Working Group on Operations

Drafting of the GSETT-3 documentation on operations has proceeded in line with GSE/WGP,WGO, WGE/1, a large amount of documentation material had been gathered, compiled and distributed to GSE delegates.

Draft manuals for the GSETT-3 Seismic Station Operations, National Data Center Operations and International Data Center Operations have been distributed. The Operations Working Group has also been responsible for the compilation of draft annexes on the Formats and Protocols for Data Exchange (Annex 3), the GSE Database Structure and Attributes (Annex 4) and the GSETT-3 System Security Plan (Annex 5). Those sections of this documentation that are most important for successful, initial full scale operations in January 1995 have been reviewed both in open Operations Working Group meetings and GSE sessions and suggestions for additions, deletions and modifications of the documentation have been collected. These will be incorporated in revised versions of the documentation which will be distributed as quickly as possible.

GSETT-3 Operations: Status and Plans

Version 1 of GSETT-3 IDC completed successful operations on 30 June 1994. As is shown in the table below 12 Alpha stations were sending continuous data to the IDC as of August 1. These are ARCESS, NORESS and Spitzbergen, (Norway); FINESS (Finland); GERESS(Germany); Pinedale(US); Mould Bay and Waterton Lakes (Canada); Alice Springs, Woolibar and Armidale (Australia) and Mawson (Antarctica). It is expected that there could be about 23 Alpha stations contributing by the end of August. The slow rate at which new stations are being added is a concern, in that a significant amount of work is involved to establish reliable communications between the station and the IDC, and to train both the automated software and the analysts to interpret the data correctly.

	1 Feb 1994	1 Aug 1994	Planned 1995
Alpha Stations	6	12	57
w/continuous data to IDC	0	12	57
Beta Stations	13	21	>100
Coverage	European	Sparse global	Global
Countries submitting			
Gamma data	1	5	?
Volume data/day to IDC	0.2 Gbytes	1.5 Gbytes	-10Gbytes
Data Days	78	122	daily
Events in REB	19/day	22/day	100-300/day
IDC Staff	27	30	45

Key systems implemented early in version 2a include the regular submission of continuous Alpha data using the new GSE Alpha protocol and retrieval and provision of data using the new GSE message and upgrade AutoDRM-type (automatic Data Request Manager) software. Installation of a new operating system at the IDC (Solaris 2.3) necessitated major changes to the IDC operational software. The most important software to be implemented within the IDC during the next several months includes upgraded signal processing, automatic association, magnitude, long period processing and data access software.

International staffing of the IDC is another important objective of the Working Group on Operations. During the session applications for positions at the IDC were reviewed and qualified applicants were selected. Offers will be extended to the successful applicants.

ANNEX IV

Status report from GSETT-3 working group on evaluation

At the 37th session of the GSE, the working group (WGE) tabled a draft of the Evaluation volume of the GSETT-3 Documentation (GSE/WGE/5).

This draft was reviewed at the informal workshop held in Alexandria, USA, last April, and resulted in a number of changes to WGE/5.

Subsequently, chapter 4 of WGE/5 (on NDCs) has been rewritten. A revised version of WGE/5, including the results of the discussions in Alexandria and the new chapter 4, was included in the documentation set mailed to all GSE members last July.

During the Alexandria workshop, WGE members visited the IDC in order to:

- (i) determine to what extent the statistics required for evaluation are already being, or could readily be, produced by the IDC.
- (ii) develop a draft procedure for a quality assurance evaluation of the IDC.

It was established that the IDC can indeed provide much of the information required for the evaluation of GSETT-3. An assessment of the current and possible capability of the IDC to do this was prepared by IDC staff and was discussed by the WGE during this session.

Many of the tasks outlined in the Evaluation volume can however only be carried out by the NDCs or as national investigations.

Most delegations in response to a questionnaire identified particular aspects of evaluation to which they intend to contribute (see the attached table).

NDCs may participate in the evaluation either through an interactive computer program (now being produced), by reporting evaluation information to the IDC in a format that is described in the "formats" annex of the GSETT-3 documentation set, or if necessary by other means.

GSE delegates are urged to review these formats and comment upon their suitability and completeness.

The draft IDC "Quality Assurance Evaluation" will be added as an annex to the GSETT-3 Documentation set.

Several national investigations provided preliminary evaluation of detection and location capabilities of the present limited GSETT-3 network. These studies are being used to help define a standardised procedure for future evaluations of this type. The WGO, in its GSE/WGO/Informal 2 provided comments on this preliminary analysis.

Schedule for future work

- The IDC quality assurance evaluation is tentatively scheduled for October 1994 and is expected to last 4-5 weeks. Selected items should however, if possible, be evaluated earlier.
- The WGE will meet in early January, at the EIDC, in order to assess and prepare a report on the overall state of readiness for GSETT-3 on 1 January 1995. This report will be presented at the next GSE meeting (February 1995).

- As various aspects of GSETT-3 (e.g. sufficient number of stations, formats, etc.) are finalized, it will become possible to evaluate these aspects in a preliminary way - e.g. detection/location capability in certain parts of the world (national investigations presented at this session; stations noise characteristics, etc.).
- Develop an "action plan" to coordinate the work of those contributing to the different aspects of GSETT-3 evaluation.

Country	Willing to Help	Areas of Involvement	Weekly Evaluation Reports
Argentina	Yes	SEIS	Yes
Australia	Yes	NDC, IDC, COM	Yes
Austria			
Belgium	Yes	GI, S&N, SEIS	Yes
Bulgaria	Yes	SEIS	Yes *
Canada	Yes	GI, IDC, COM, S&N, SEIS	Yes
China	Yes	S&N, SEIS	? *
Czech Republic	? *	NDC, SEIS	Yes *
Denmark	Yes	SEIS	Yes
Egypt			
Finland	Yes	GI, NDC, S&N, SEIS	Yes
France	Yes	GI, SEIS	Yes
Germany	Yes	IDC	Yes *
Hungary	? *	SEIS	No *
India			
Iran			
Israel			
Italy	Yes	SEIS	Yes
Japan	Yes	SEIS	Yes
Korea, Republic of	Yes	S&N	No
Netherlands	Yes	GI, S&N, SEIS	Yes
New Zealand	Yes	NDC, SEIS	Yes
Norway	Yes	IDC, SEIS	Yes
Pakistan	Yes	NDC	Yes
Peru	Yes	SEIS	No *
Poland	No	SEIS	No *
Russian Federation	Yes	NDC, IDC, SEIS	Yes
South Africa	Yes	NDC, S&N	Yes *
Spain	Yes	GI, IDC, SEIS	Yes
Sweden	Yes	GI, IDC, S&N, SEIS	Yes
Switzerland	Yes	NDC, IDC, SEIS	Yes
United Kingdom	Yes	NDC	Yes
United States	Yes	ALL	Yes

GSE Participation in GSEIT-3 Evaluation

Key: * = under discussion † = expected later GI = General Issues
SEIS = Seismological S&N = Stations and Networks COM = communications

ANNEX V

Draft work programme for the next (40th) session

1. Review of initial results from the full-scale GSETT-3 testing
 - IDC reports
 - National reports by participants
2. Preliminary evaluation of the GSETT-3 system and its initial results
3. Discussion of modifications to GSETT-3 procedures needed in the light of these experiences
4. Presentation and review of national investigations into relevant matters
5. Discussion of future plans
6. Answer possible questions relating to GSETT-3 from the NTB Ad Hoc Committee or its Working Group on Verification
7. Submission of a progress report to the CD
8. Other matters

CONFERENCE ON DISARMAMENT

CD/1272
CD/NTB/WP.178
24 August 1994

ENGLISH
Original: CHINESE/ENGLISH

LETTER DATED 23 AUGUST 1994 FROM THE HEAD OF THE DELEGATION OF THE PEOPLE'S REPUBLIC OF CHINA TO THE CONFERENCE ON DISARMAMENT ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT TRANSMITTING THE TEXT OF A STATEMENT MADE BY COUNSELLOR HU XIAODI OF THE CHINESE DELEGATION ON 19 AUGUST 1994 AT THE AD HOC COMMITTEE ON A NUCLEAR TEST BAN

I have the honour to transmit to you herewith the text of a statement made by Counsellor Hu Xiaodi of the Chinese delegation on 19 August 1994 at the NTB Ad Hoc Committee.

I would be grateful if this text could be circulated as an official document of the Conference on Disarmament and a working paper of the NTB Ad Hoc Committee.

(Signed): Hou Zhitong
Ambassador Extraordinary
and Plenipotentiary
for Disarmament Affairs,
Head of the Delegation
of the People's Republic
of China to the CD

STATEMENT MADE ON 19 AUGUST 1994 BY COUNSELLOR HU XIAODI OF CHINA
TO THE AD HOC COMMITTEE ON A NUCLEAR TEST BAN

Mr. Chairman,

I have been directed by the Chinese Government to raise the following points with the CD Ad Hoc Committee on a Nuclear Test Ban, and would request you, Sir, and the Committee to take note and put them on record.

Documents CD/NTB/WP.158 and GSE/US/99 have recently been circulated in the Conference and the Ad Hoc Committee. These two documents, on page 7 and the last page respectively, list Beta stations that it is proposed to establish in over 60 countries. Below China, Russia, Japan and so forth there appears the name "Taiwan", associating Taiwan with the names of over 60 countries. In addition, the appellation "Republic of China" has appeared in some materials.

It must be pointed out that the above state of affairs is not proper in the Conference on Disarmament and its ad hoc committees, and that this is a serious matter. It goes without saying that the Ad Hoc Committee on a Nuclear Test Ban and the Group of Seismic Experts are subsidiary bodies of the Conference and should function strictly in accordance with its rules of procedure and pertinent resolutions. States Members of the United Nations must abide strictly by the Charter and the resolutions of the Organization.

Mr. Chairman,

As everyone is aware, there is on this Earth only one China, of which Taiwan is a part. The Government of the People's Republic of China is the sole legitimate Government that represents the whole of China, and has been recognized by the United Nations, the Conference on Disarmament and the international community, including all the countries with which it has diplomatic relations. We are resolutely opposed to any practices that might create or promote "two Chinas" or "one China, one Taiwan".

The Chinese delegation has been directed by the Chinese Government to announce that this state of affairs that has arisen in the Conference on Disarmament and its subsidiary ad hoc committees, on a nuclear test ban and so forth, is unacceptable. We again request the United States delegation to rectify the matter. We ask you, Mr. Chairman, and through you, the Conference on Disarmament and its secretariat to take the necessary measures.

CONFERENCE ON DISARMAMENT

CD/1273/Rev.1
5 September 1994

Original: ENGLISH

REPORT OF THE AD HOC COMMITTEE ON A NUCLEAR TEST BAN TO THE CONFERENCE ON DISARMAMENT

I. INTRODUCTION

1. At its 666th plenary meeting on 25 January 1994, the Conference on Disarmament re-established the Ad Hoc Committee on a Nuclear Test Ban with the following mandate (CD/1238):

"In the exercise of its responsibilities as the sole multilateral disarmament negotiating forum of the international community, the Conference on Disarmament decides to re-establish an Ad Hoc Committee under item 1 of its agenda entitled 'Nuclear Test Ban', and to give priority to its work.

The Conference directs the Ad Hoc Committee to negotiate intensively a universal and multilaterally and effectively verifiable comprehensive nuclear-test-ban treaty, which would contribute effectively to the prevention of the proliferation of nuclear weapons in all its aspects, to the process of nuclear disarmament and therefore to the enhancement of international peace and security.

Pursuant to its mandate, the Ad Hoc Committee will take into account all existing proposals and future initiatives, as well as the work of the Ad Hoc Group of Scientific Experts to Consider International Cooperative Measures to Detect and Identify Seismic Events. The Conference requests the Ad Hoc Committee to establish the necessary working groups in order to carry forward effectively this negotiating mandate; these should include at least two working groups, one on verification and one on legal and institutional issues, which should be established in the initial stage of the negotiation, and any others which the Committee may subsequently decide upon.

The Ad Hoc Committee will report to the Conference on Disarmament on the progress of its work before the conclusion of the 1994 session."

II. ORGANIZATION OF WORK AND DOCUMENTATION

2. At the 668th plenary meeting on 1 February 1994, the Conference on Disarmament appointed Ambassador Miguel Marín-Bosch of Mexico as Chairman of the Ad Hoc Committee. Ms. Jenifer Mackby, Political Affairs Officer of the United Nations Centre for Disarmament Affairs, served as Secretary of the Ad Hoc Committee.

3. In accordance with the decision of the Conference adopted at its 603rd plenary meeting on 22 August 1991, the Ad Hoc Committee was open to all the non-member States invited by the Conference to participate in its work.

4. The Ad Hoc Committee held 24 meetings from 3 February to 5 September 1994. In addition, the Chairman conducted a number of informal consultations with delegations.

5. The following official documents dealing with a nuclear test ban were presented to the Conference:

- CD/1227, dated 13 October 1993, entitled "Letter dated 11 October 1993 from the Permanent Representative of Chile addressed to the Secretary-General of the Conference on Disarmament transmitting a statement by the Government of Chile concerning the nuclear test carried out by China".

- CD/1231 and Corr.1 (French only), dated 1 December 1993, entitled "Letter dated 29 November 1993 from the Permanent Representative of Mexico addressed to the President of the Conference on Disarmament transmitting the text of a working paper of the Group of 21 entitled 'Conclusion of a Comprehensive Nuclear-Test-Ban Treaty'".

- CD/1232 (also issued as CD/NTB/WP.33), dated 6 December, entitled "Letter dated 6 December 1993 from the Head of the delegation of Sweden addressed to the Secretary-General of the Conference on Disarmament transmitting the text of a draft Comprehensive Nuclear-Test-Ban Treaty and its annexed draft Protocol".

- CD/1235 and Corr.1 (A.C.E.F.S. only) dated 5 January 1994, entitled "Letter dated 4 January 1994 from the Permanent Representative of Australia to the United Nations for Disarmament Matters addressed to the President of the Conference on Disarmament transmitting the text of a Working Paper entitled 'Comprehensive Nuclear-Test-Ban Treaty: a draft structural outline'".

- CD/1238, dated 25 January 1994, entitled "Mandate for an Ad Hoc Committee under Agenda Item 1: 'Nuclear Test Ban' (adopted at the 666th plenary meeting on 25 January 1994)".

- CD/1239, dated 25 January 1994, entitled "Presidential statement on the agenda and organization of work for the 1994 session of the Conference on Disarmament at the 666th plenary meeting on 25 January 1994".

- CD/1240, dated 27 January 1994, entitled "Letter dated 26 January 1994 from the Permanent Representative of Indonesia addressed to the Secretary-General of the Conference on Disarmament transmitting the text of the Concluding Statement of the President of the Amendment Conference of the States Parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water at the Special (Informal) Meeting of the States Parties held in New York on 10 August 1993".
- CD/1241, dated 2 February 1994, entitled "Letter dated 1 February 1994 from the Deputy Permanent Representative of Canada addressed to the Deputy Secretary-General of the Conference on Disarmament transmitting four compendia of documents of the Conference on Disarmament to support the negotiations on a Comprehensive Test-Ban Treaty".
- CD/1252 (also issued as CD/NTB/WP.37), dated 22 March 1994, submitted by the Group of 21, entitled "Some key elements of a comprehensive nuclear-test-ban treaty".
- CD/1254, dated 25 March 1994, entitled "Report of the Ad Hoc Group of Scientific Experts to Consider International Cooperative Measures to Detect and Identify Seismic Events to the Ad Hoc Committee on a Nuclear Test Ban on International Seismic Monitoring and the GSETT-3 Experiment".
- CD/1255 (also issued as CD/NTB/WP.51), dated 30 March 1994, entitled "Letter dated 30 March 1994 from the Head of the delegation of the People's Republic of China addressed to the President of the Conference on Disarmament transmitting the text of a document entitled 'Basic structure of a comprehensive test-ban treaty'".
- CD/1262 (also issued as CD/NTB/WP.120), dated 16 June 1994, entitled "Letter dated 15 June 1994 from the Representative of the United States of America to the Conference on Disarmament addressed to the Deputy Secretary-General of the Conference on Disarmament transmitting a statement made on 13 June 1994 to the Ad Hoc Committee on a Nuclear Test Ban".
- CD/1263 (also issued as CD/NTB/WP.121), dated 16 June 1994, entitled "Letter dated 15 June 1994 from the Head of the delegation of the People's Republic of China to the Conference on Disarmament addressed to the President of the Conference on Disarmament transmitting the text of a statement made on 10 June 1994 by the spokesman of the Foreign Ministry of the People's Republic of China".
- CD/1264, dated 28 June 1994, entitled "Letter dated 21 June 1994 from the Deputy Permanent Representative of Canada addressed to the Deputy Secretary-General of the Conference on Disarmament transmitting a verification subject index to CD Working Papers on the nuclear test ban issue".
- CD/1266 (also issued as CD/NTB/WP.140), dated 6 July 1994, entitled "Letter dated 4 July 1994 from the Permanent Representative of India, in his capacity as Coordinator of the Group of 21 on the item 'Nuclear Test Ban', addressed to the President of the Conference on Disarmament transmitting the text of a statement by the Group of 21 on a Comprehensive Nuclear-Test-Ban Treaty".

- CD/1268 (also issued as CD/NTB/WP.148), dated 5 August 1994, entitled "Letter dated 4 August 1994 from the Permanent Representative of Austria addressed to the President of the Conference on Disarmament confirming the readiness of the Federal Government of Austria to host the future Comprehensive Test-Ban Treaty Organization (CTBTO) in Vienna".

- CD/1272 (also issued as CD/NTB/WP.178), dated 24 August 1994, entitled "Letter dated 23 August 1994 from the Head of the Delegation of the People's Republic of China to the Conference on Disarmament addressed to the President of the Conference on Disarmament transmitting the text of a statement made by Counsellor Hu Xiaodi of the Chinese Delegation on 19 August 1994 at the Ad Hoc Committee on a Nuclear Test Ban".

- CD/1273, dated 24 August 1994, entitled "Report of the Ad Hoc Committee on a Nuclear Test Ban to the Conference on Disarmament".

- CD/1276, dated 30 August 1994, entitled "Letter dated 29 August 1994 from the Representative of the United States of America to the Conference on Disarmament addressed to the Deputy Secretary-General of the Conference on Disarmament transmitting the text of a message by the President of the United States to the Conference on Disarmament, delivered orally to the Conference on 25 January 1994 by the Director of the United States Arms Control and Disarmament Agency, concerning the importance of the negotiation of a comprehensive and verifiable ban on nuclear explosions".

6. In addition, the following working papers were presented to the Ad Hoc Committee:

- CD/NTB/WP.33 (also issued as CD/1232).

- CD/NTB/WP.34, dated 11 February 1994, submitted by the delegation of Australia, entitled "CTBT: Australian views".

- CD/NTB/WP.35, dated 8 March 1994, submitted by a Friend of the Chair, entitled "Routine inspections: introductory observations and issues for consideration in Working Group 1".

- CD/NTB/WP.36, dated 8 March 1994, submitted by a Friend of the Chair, entitled "Challenge inspections: introductory observations and issues for consideration in Working Group 1".

- CD/NTB/WP.37 and Corr.1 (English only) (also issued as CD/1252).

- CD/NTB/WP.38 and Corr.1 (English only), dated 10 March 1994, submitted by the delegation of Sweden, entitled "ISAR (International Surveillance of Atmospheric Radioactivity): Zooming in on its technical specifications".

- CD/NTB/WP.39, dated 10 March 1994, submitted by the delegation of the United States of America, entitled "International monitoring concept for atmospheric radioactivity".

- CD/NTB/WP.40, dated 11 March 1994, submitted by the delegation of Sweden, entitled "On-site inspection".
- CD/NTB/WP.41, Corr.1 (A.C.E.R.S. only) and Corr.2 (Russian only), dated 11 March 1994, submitted by the delegation of Australia, entitled "Possible elements of a textual approach to international on-site inspection".
- CD/NTB/WP.42, dated 14 March 1994, submitted by a Friend of the Chair, entitled "On-site inspection of large chemical explosions: introductory observations and issues for consideration in WG 1".
- CD/NTB/WP.43, dated 14 March 1994, submitted by the delegation of Australia, entitled "Possible elements of a textual approach to non-compliance".
- CD/NTB/WP.44, dated 16 March 1994, submitted by the delegation of Germany, entitled "Basic obligations and scope of a test-ban treaty".
- CD/NTB/WP.45 and Corr.1 (French only), dated 18 March 1994, submitted by a Friend of the Chair, entitled "General issues relating to on-site activities for consideration at a meeting of experts between 16 and 27 May 1994".
- CD/NTB/WP.46, dated 22 March 1994, submitted by the delegation of Germany, entitled "Language proposed for Article I".
- CD/NTB/WP.47, dated 23 March 1994, submitted by the delegation of the Netherlands, entitled "Entry into Force".
- CD/NTB/WP.48, dated 23 March 1994, submitted by the delegation of Australia, entitled "Possible elements of a textual approach to international seismological monitoring for CTBT verification purposes".
- CD/NTB/WP.49, dated 30 March 1994, submitted by the delegation of Australia, entitled "Comprehensive Test-Ban Treaty: Australian resource paper on draft treaty elements".
- CD/NTB/WP.50, dated 30 March 1994, submitted by the delegation of Australia, entitled "Comprehensive Test-Ban Treaty: Australian resource paper on draft treaty elements - Explanatory notes".
- CD/NTB/WP.51 (also issued as CD/1255).
- CD/NTB/WP.52, dated 31 March 1994, submitted by the delegation of Sweden, entitled "Article on Basic Obligations".
- CD/NTB/WP.53, dated 19 May 1994, submitted by the delegation of the United States of America, entitled "Monitoring a comprehensive test-ban treaty: an overview of the US approach".
- CD/NTB/WP.54, dated 17 May 1994, submitted by the delegation of New Zealand, entitled "CTBT verification by atmospheric radioactivity monitoring: the New Zealand perspective".

- CD/NTB/WP.55, dated 18 May 1994, submitted by the delegation of The Netherlands, entitled "Verification techniques to monitor a CTBT".
- CD/NTB/WP.56 and Corr.1 (English only), dated 20 May 1994, submitted by the delegation of France, entitled "Atmospheric radioactivity monitoring: a possible contribution to the verification of a CTBT".
- CD/NTB/WP.57 and Corr.1 (English only), dated 30 May 1994, submitted by the delegation of Japan, entitled "Japanese views on a CTBT".
- CD/NTB/WP.58, dated 20 May 1994, submitted by the delegation of the Russian Federation, entitled "Monitoring the Comprehensive Test-Ban Treaty (CTBT) with devices for detecting radioactivity in the atmosphere".
- CD/NTB/WP.59, dated 20 May 1994, submitted by the delegation of the Russian Federation, entitled "CTBT monitoring using measurements of infrasonic disturbances".
- CD/NTB/WP.60, dated 20 May 1994, submitted by a Friend of the Chair, entitled "Transparency measures".
- CD/NTB/WP.61, dated 24 May 1994, submitted by the delegation of the Russian Federation, entitled "Satellite monitoring of a comprehensive test-ban treaty".
- CD/NTB/WP.62 and Corr.1 (English only), dated 24 May 1994, submitted by the delegation of the Russian Federation, entitled "CTBT monitoring using measurements of electromagnetic pulse".
- CD/NTB/WP.63 and Corr.1 (English only), dated 24 May 1994, submitted by the delegation of the United States of America, entitled "International radionuclide monitoring concept".
- CD/NTB/WP.64, dated 25 May 1994, submitted by the delegation of Germany, entitled "International monitoring concept for atmospheric radioactivity: Questions to be dealt with by experts in the period 16-27 May 1994".
- CD/NTB/WP.65, dated 25 May 1994, submitted by the delegation of Canada, entitled "The application of radionuclide monitoring in the verification of a comprehensive test-ban treaty (CTBT)".
- CD/NTB/WP.66, dated 25 May 1994, submitted by the International Atomic Energy Agency, entitled "Memorandum on a global atmospheric radionuclide monitoring system as part of a verification regime for a comprehensive test-ban treaty".
- CD/NTB/WP.67, dated 25 May 1994, submitted by the World Meteorological Organization, entitled "The WMO Global Atmosphere Watch (GAW)".
- CD/NTB/WP.68, dated 27 May 1994, submitted by the delegation of Canada, entitled "CTBT verification: Questionnaire on non-seismic techniques: Canadian response".

- CD/NTB/WP.69, dated 27 May 1994, submitted by the delegation of Austria, entitled "Nuclear test ban verification - non-seismic methods: Measurement of radionuclides".
- CD/NTB/WP.70, dated 27 May 1994, submitted by the delegation of the United States of America, entitled "Hydroacoustic method for monitoring a comprehensive test-ban treaty".
- CD/NTB/WP.71, dated 30 May 1994, submitted by the delegation of New Zealand, entitled "Seismological detection of hydroacoustic waves from the Chase V explosion and consequences for surveillance of oceanic areas".
- CD/NTB/WP.72, dated 26 May 1994, submitted by the delegation of Israel, entitled "Israel's views on some aspects of a CTBT".
- CD/NTB/WP.73, dated 31 May 1994, submitted by the delegation of Belgium, entitled "Hydroacoustics: A possible contribution to the verification of a CTBT".
- CD/NTB/WP.74 and Corr.1 (English only), dated 31 May 1994, submitted by the delegation of the Russian Federation, entitled "On-site inspections of ambiguous events in the monitoring of a CTBT: Theoretical possibility of detecting covert nuclear tests through on-site inspections".
- CD/NTB/WP.75, dated 1 June 1994, submitted by the delegation of Australia, entitled "Hydroacoustic monitoring of CTBT compliance".
- CD/NTB/WP.76, dated 2 June 1994, submitted by the delegation of Sweden, entitled "Pursuing the ISAR (international surveillance of atmospheric radioactivity) concept".
- CD/NTB/WP.77, dated 2 June 1994, submitted by the delegation of France, entitled "Verification of a comprehensive test-ban treaty (CTBT) using satellite technology".
- CD/NTB/WP.78, dated 2 June 1994, submitted by the delegation of the People's Republic of China, entitled "Working Paper on CTBT verification".
- CD/NTB/WP.79, dated 2 June 1994, submitted by the delegation of Australia, entitled "Global monitoring of atmospheric radionuclides in support of CTBT verification: An Australian view".
- CD/NTB/WP.80, dated 3 June 1994, submitted by the delegation of Canada, entitled "Canada's approach to overhead imagery in support of the verification of a comprehensive test-ban treaty (CTBT)".
- CD/NTB/WP.81, dated 6 June 1994, submitted by the delegation of the Russian Federation, entitled "Replies to questions to be dealt with by experts on non-seismic verification in the period 16-27 May 1994".
- CD/NTB/WP.82, dated 6 June 1994, submitted by the delegation of Finland, entitled "Detection of radionuclides: answers to the questions of document CD/NTB/WG.1/7, 9 March 1994".

- CD/NTB/WP.83, dated 6 June 1994, submitted by the delegation of Belgium, entitled "The global data exchange system: security problems and authentication of data".
- CD/NTB/WP.84, dated 6 June 1994, submitted by the delegation of India, entitled "Potential of seismic and other relevant techniques for monitoring underwater explosions".
- CD/NTB/WP.85, dated 6 June 1994, submitted by the delegation of India, entitled "Relevant techniques for detection of nuclear explosions in the atmosphere".
- CD/NTB/WP.86, dated 6 June 1994, submitted by the delegation of India, entitled "Some non-seismic techniques for detection of underground nuclear explosions".
- CD/NTB/WP.87, dated 7 June 1994, submitted by the delegation of the United States of America, entitled "A global infrasound method for monitoring a comprehensive test-ban treaty".
- CD/NTB/WP.88, dated 7 June 1994, submitted by the delegation of the United States of America, entitled "Ground-based optical system for monitoring a comprehensive test-ban treaty".
- CD/NTB/WP.89, dated 8 June 1994, submitted by the delegation of the United States of America, entitled "Ground-based electromagnetic pulse (EMP) detection system for monitoring a comprehensive test-ban treaty".
- CD/NTB/WP.90, dated 8 June 1994, submitted by the delegation of the United States of America, entitled "'Challenge' on-site inspection concept".
- CD/NTB/WP.91, dated 8 June 1994, submitted by the delegation of Canada, entitled "The application of on-site inspection (OSI) techniques in support of the verification of a comprehensive test-ban treaty (CTBT)".
- CD/NTB/WP.92, dated 8 June 1994, submitted by the delegation of Italy, entitled "Questions to be dealt with by experts in the period 16-27 May 1994".
- CD/NTB/WP.93, dated 8 June 1994, submitted by the delegation of Italy, entitled "Radiological monitoring system in Italy: Present situation and perspectives".
- CD/NTB/WP.94, dated 9 June 1994, submitted by the delegation of Italy, entitled "On-site inspections".
- CD/NTB/WP.95, dated 13 June 1994, submitted by the International Atomic Energy Agency, entitled "Memorandum on IAEA's on-site inspection experience".
- CD/NTB/WP.96, dated 10 June 1994, submitted by the delegation of the United States of America, entitled "Concept for a comprehensive test-ban treaty: International seismic monitoring system".

- CD/NTB/WP.97, dated 13 June 1994, submitted by the Chairman of the Working Group on Verification, entitled "Decision period Working Group 1: Introduction".
- CD/NTB/WP.98, dated 13 June 1994, submitted by the Chairman of the Working Group on Verification, entitled "On-site activities: Working paper for the 'decision period'".
- CD/NTB/WP.99, dated 13 June 1994, submitted by the delegation of Sweden, entitled "Comments on: International Data Centre - analysis and products".
- CD/NTB/WP.100, dated 14 June 1994, submitted by the delegation of Germany, entitled "A modified concept for a global seismic verification system: Considerations about saving costs".
- CD/NTB/WP.101, dated 14 June 1994, submitted by the delegation of Japan, entitled "Replies to the questions on non-seismic verification contained in CD/NTB/WG.1/7".
- CD/NTB/WP.102, dated 7 June 1994, submitted by the delegation of Israel, entitled "The CTBT verification regime: The consultation and clarification process".
- CD/NTB/WP.103, dated 14 June 1994, submitted by the Chairman of the Working Group on Verification, entitled "Chairman's paper for the 'decision period': Non-seismic verification activities for monitoring purposes".
- CD/NTB/WP.104, dated 14 June 1994, submitted by the delegation of the United States of America, entitled "An overview of the role of associated measures in monitoring a comprehensive test-ban treaty".
- CD/NTB/WP.105, dated 14 June 1994, submitted by the delegation of the United States of America, entitled "Discussion of problems for comprehensive test-ban treaty verification posed by chemical explosions".
- CD/NTB/WP.106, dated 14 June 1994, submitted by the delegation of the United States of America, entitled "Calibration events for improved seismic verification of a comprehensive test-ban treaty".
- CD/NTB/WP.107 and Corr.1 (English and Russian only), dated 14 June 1994, submitted by the delegation of India, entitled "Preliminary answers to working paper CD/NTB/WG.1/7 dated 9 March 1994".
- CD/NTB/WP.108, dated 15 June 1994, submitted by the delegation of India, entitled "Preliminary answers to working paper CD/NTB/WP.45 dated 18 March 1994 and its annexes".
- CD/NTB/WP.109, dated 15 June 1994, submitted by the delegation of the United States of America, entitled "Mine monitoring system concept for a comprehensive test-ban treaty".

- CD/NTB/WP.110, dated 15 June 1994, submitted by the delegation of Japan, entitled "Article ...: Consultation and Clarification".
- CD/NTB/WP.111, dated 15 June 1994, submitted by the delegation of Australia, entitled "Mining explosions and the comprehensive test-ban treaty: an Australian case study".
- CD/NTB/WP.112, dated 16 June 1994, submitted by the Chairman of the Working Group on Verification, entitled "Chairman's Paper for the 'decision period': Seismic verification for monitoring purposes".
- CD/NTB/WP.113, dated 17 June 1994, submitted by the Chairman of the Working Group on Verification, entitled "Chairman's paper for the 'decision period': Transparency Measures".
- CD/NTB/WP.114, dated 17 June 1994, submitted by the delegation of Israel, entitled "On-site inspection: Preliminary answers to the Chairman's paper CD/NTB/WP.98 of 13 June 1994".
- CD/NTB/WP.115, dated 17 June 1994, submitted by the delegation of the United States of America, entitled "Non-seismic monitoring technologies for CTBT verification".
- CD/NTB/WP.116, dated 15 June 1994, submitted by the delegation of Australia, entitled "The 'decision period': an Australian response".
- CD/NTB/WP.117, dated 24 June 1994, submitted by the delegation of France, entitled "Seeking synergy between the various possible verification techniques".
- CD/NTB/WP.118, dated 17 June 1994, submitted by the delegation of Italy, entitled "Preliminary answers to working paper CD/NTB/WP.98".
- CD/NTB/WP.119, dated 21 June 1994, submitted by the delegation of Israel, entitled "The CTBT Organization".
- CD/NTB/WP.120 (also issued as CD/1262).
- CD/NTB/WP.121 (also issued as CD/1263).
- CD/NTB/WP.122, dated 20 June 1994, submitted by the delegation of the People's Republic of China, entitled "Proposed wording for the CTBT article on 'Security assurances for States Parties'".
- CD/NTB/WP.123, dated 20 June 1994, submitted by the delegation of the People's Republic of China, entitled "Entry into force of the CTBT".
- CD/NTB/WP.124, dated 20 June 1994, submitted by the delegation of the People's Republic of China, entitled "Proposed wording for the Preamble to the CTBT".

- CD/NTB/WP.125, dated 20 June 1994, submitted by the delegation of the People's Republic of China, entitled "Proposed wording for the CTBT article on 'Duration and withdrawal'".
- CD/NTB/WP.126, dated 20 June 1994, submitted by the delegation of the People's Republic of China, entitled "Amendment of the CTBT".
- CD/NTB/WP.127, dated 20 June 1994, submitted by the delegation of the People's Republic of China, entitled "Review of the CTBT".
- CD/NTB/WP.128, dated 20 June 1994, submitted by the delegation of the People's Republic of China, entitled "The CTBT organizational structure".
- CD/NTB/WP.129, dated 24 June 1994, submitted by the delegation of Canada, entitled "Non-seismic questionnaire: Canada's answers".
- CD/NTB/WP.130, dated 24 June 1994, submitted by the delegation of Canada, entitled "On-site activities: Canada's replies".
- CD/NTB/WP.131, dated 24 June 1994, submitted by the delegation of Canada, entitled "Transparency measures: Canada's replies".
- CD/NTB/WP.132, dated 29 June 1994, submitted by the delegation of Israel, entitled "On-site inspection: Draft text covering some procedural elements of OSI".
- CD/NTB/WP.133, dated 24 June 1994, submitted by the delegation of Belgium, entitled "Questionnaire on non-seismic techniques (CD/NTB/WG.1/7, dated 9 March 1994): Replies from Belgium".
- CD/NTB/WP.134, dated 24 June 1994, submitted by the delegation of Belgium, entitled "Verification of a CTBT: Questionnaire on non-seismic techniques (document CD/NTB/WP.103 of 14 June 1994): Reply from Belgium".
- CD/NTB/WP.135, dated 30 June 1994, submitted by a Friend of the Chair, entitled "Summary of technical presentations made to Working Group 1 on non-seismic methods and their possible contribution to test ban verification".
- CD/NTB/WP.136, dated 4 July 1994, submitted by a Friend of the Chair, entitled "Questionnaire on non-seismic methods".
- CD/NTB/WP.137, dated 1 July 1994, submitted by the Chairman of the Working Group on Verification, entitled "Working Group I - Verification: Chairman's Paper, Draft language for Treaty and Protocol: Verification".
- CD/NTB/WP.138, dated 1 July 1994, submitted by the Chairman of the Working Group on Legal and Institutional Issues, entitled "Working Group 2 - Legal and Institutional Issues: Chairman's Paper".
- CD/NTB/WP.139, dated 5 July 1994, submitted by the delegation of Canada, entitled "CTBT Organization".
- CD/NTB/WP.140 (also issued as CD/1266).

- CD/NTB/WP.141, dated 26 July 1994, submitted by the delegation of India, entitled "Seismic technique for verification of a CTBT".
- CD/NTB/WP.142, dated 27 July 1994, submitted by the delegation of Israel, entitled "Measures to redress a situation and to ensure compliance including sanctions".
- CD/NTB/WP.143, dated 27 July 1994, submitted by the delegation of Israel, entitled "Reservations".
- CD/NTB/WP.144, dated 29 July 1994, submitted by the delegation of Japan, entitled "CTBT Verification System Flowchart".
- CD/NTB/WP.145, dated 29 July 1994, submitted by the delegation of the Netherlands, entitled "Answers to the questionnaire on non-seismic methods (CD/NTB/WP.136)".
- CD/NTB/WP.146, dated 29 July 1994, submitted by the delegation of Israel, entitled "Comments on Chairman's Paper CD/NTB/WP.137 of 1 July 1994".
- CD/NTB/WP.147, dated 3 August 1994, submitted by the delegation of Belgium, entitled "Responses to questionnaire CD/NTB/WP.113 of 17 June 1994 on transparency measures".
- CD/NTB/WP.148 (also issued as CD/1268).
- CD/NTB/WP.149, dated 8 August 1994, submitted by the delegation of Australia, entitled "Australian national responses to a Friend of the Chair's questionnaires on the status of existing national and international systems relevant to CTBT compliance (CD/NTB/WP.136)".
- CD/NTB/WP.150, dated 5 August 1994, submitted by the Chairman of the Working Group on Verification, entitled "Working Group I - Verification: Chairman's Paper, Elements for a Rolling Text: Verification".
- CD/NTB/WP.151, dated 8 August 1994, submitted by the delegation of Romania, entitled "Answers to the questionnaire on non-seismic methods (CD/NTB/WP.136)".
- CD/NTB/WP.152, dated 9 August 1994, submitted by the delegation of the Russian Federation, entitled "Responses to the questionnaires contained in CD/NTB/WP.136".
- CD/NTB/WP.153, dated 9 August 1994, submitted by the delegation of Israel, entitled "Comments on Chairman's Paper CD/NTB/WP.137 of 1 July 1994".
- CD/NTB/WP.154 and Corr.1, dated 10 August 1994, submitted by the Friend of the Chair, entitled "Organization".
- CD/NTB/WP.155, dated 16 August 1994, submitted by the delegation of the United States of America, entitled "Response to the Friend of the Chair's proposal of 24 June 1994 for future work on non-seismic techniques: Design of the CTBT radionuclide monitoring system".

- CD/NTB/WP.156, dated 16 August 1994, submitted by the delegation of the United States of America, entitled "Response to the Friend of the Chair's proposal of 24 June 1994 for future work on non-seismic techniques: Response to the Friend of the Chair's questionnaires on the status of existing national and international systems relevant to CTBT compliance (CD/NTB/WP.136): Design of the CTBT infrasound monitoring system".

- CD/NTB/WP.157, dated 19 August 1994, submitted by the delegation of the United States of America, entitled "Response to the Friend of the Chair's proposal of 24 June 1994 for future work on non-seismic techniques: Response to the Friend of the Chair's questionnaires on the status of existing national and international systems relevant to CTBT compliance (CD/NTB/WP.136): Design of the CTBT hydroacoustic monitoring system".

- CD/NTB/WP.158, dated 18 August 1994, submitted by the delegation of the United States of America, entitled "Design of the CTBT seismic monitoring system".

- CD/NTB/WP.159, dated 18 August 1994, submitted by the delegation of the United States of America, entitled "Statement of principles on data and system integrity".

- CD/NTB/WP.160, dated 12 August 1994, submitted by the delegation of France, entitled "Evaluation of the international verification system".

- CD/NTB/WP.161, dated 16 August 1994, submitted by a Friend of the Chair, entitled "Entry into Force".

- CD/NTB/WP.162, dated 18 August 1994, submitted by the delegation of Belgium, entitled "Answers to the questionnaire on non-seismological verification techniques (CD/NTB/WP.136): Radioactive monitoring: the status of existing national radioactive/radiation monitoring systems".

- CD/NTB/WP.163, dated 19 August 1994, submitted by the delegation of the Russian Federation, entitled "Proposed amendments to the protocol draft language (CD/NTB/WP.137, Section 'On-Site Inspection')".

- CD/NTB/WP.164, dated 16 August 1994, submitted by the delegation of Australia, entitled "Progress report on preliminary event identification (PEI)".

- CD/NTB//WP.165, dated 19 August 1994, submitted by the delegation of Australia, entitled "Development of an automated approach to preliminary event identification (PEI)".

- CD/NTB/WP.166, dated 23 August 1994, submitted by the delegation of China, entitled "CTBT's scope of prohibition".

- CD/NTB/WP.167, dated 23 August 1994, submitted by the delegation of China, entitled "CTBT Article on the peaceful use of nuclear energy and peaceful nuclear explosions".

- CD/NTB/WP.168, dated 17 August 1994, entitled "Draft Report of the Ad Hoc Committee on a Nuclear Test Ban to the Conference on Disarmament".
- CD/NTB/WP.169, dated 23 August 1994, submitted by the delegation of the United States of America, entitled "Response seismic verification for monitoring purposes: Working paper for the 'Decision Period' (CD/NTB/WP.112)".
- CD/NTB/WP.170, dated 23 August 1994, submitted by the delegation of Israel, entitled "The CTBT Organization: Comments on the Friend of the Chair's paper CD/NTB/WP.154 of 10 August 1994".
- CD/NTB/WP.171, dated 23 August 1994, submitted by a Friend of the Chair, entitled "Options for the design of a CTBT radioactivity monitoring network, with their most important capabilities and costs: Report of the group of experts on radioactivity to Working Group 1".
- CD/NTB/WP.172, dated 23 August 1994, submitted by a Friend of the Chair, entitled "Options for the design of a CTBT hydroacoustic monitoring network, with their most important capabilities and costs: Report of the group of experts on hydroacoustics to Working Group 1".
- CD/NTB/WP.173, dated 23 August 1994, submitted by the delegation of Mongolia, entitled "Answers to the questionnaire on non-seismic methods (CD/NTB/WP.136)".
- CD/NTB/WP.174, dated 23 August 1994, submitted by the delegation of Israel, entitled "Comments on Chairman paper (CD/NTB/WP.137 of 1 July 1994)".
- CD/NTB/WP.175, dated 23 August 1994, submitted by the delegation of Mongolia, entitled "Mongolia's position on a CTBT".
- CD/NTB/WP.176*, dated 1 September 1994, submitted by a Friend of the Chair, entitled "Infrasound monitoring system".
- CD/NTB/WP.177, dated 24 August 1994, submitted by a Friend of the Chair, entitled "Seismic monitoring system".
- CD/NTB/WP.178 (also issued as CD/1272).
- CD/NTB/WP.179, dated 25 August 1994, submitted by the delegation of Japan, entitled "Reply to the Questionnaire dated 1 July 1994 prepared by the Friend of the Chair on Non-Seismic Verification in respect of Radioactive Monitoring".
- CD/NTB/WP.180, dated 31 August 1994, submitted by the delegation of Israel, entitled "Consultation and clarification and expert evaluation".
- CD/NTB/WP.181, dated 2 September 1994, submitted by a Friend of the Chair, entitled "Illustration of possible networks of sensors to detect, locate and identify explosions underground, underwater and in the atmosphere based on the reports of experts".

7. Furthermore, the Secretariat updated a list of documents relating to a nuclear test ban, submitted to the Conference of the Eighteen Nation Committee on Disarmament, the Conference of the Committee on Disarmament, the Committee on Disarmament and the Conference on Disarmament (CD/NTB/INF.1/Add.3 of 2 February 1994).

III. SUBSTANTIVE WORK DURING THE 1994 SESSION

8. In accordance with its mandate, the Ad Hoc Committee commenced negotiation of the treaty.

In discharging its mandate, the Ad Hoc Committee decided to hold a general exchange of views on all aspects of a nuclear test-ban treaty and to set up the following two Working Groups:

- (a) Working Group 1: Verification
(Chairman: Ambassador Wolfgang Hoffman, Germany)
- (b) Working Group 2: Legal and Institutional Issues
(Chairman: Ambassador Ludwik Dembinski, Poland)

9. In addition, six Friends of the Chair were appointed to deal with the following specific issues in private and open-ended consultations:

For Working Group 1:

- (a) "Seismic techniques"
(Mr. Ajit Kumar, India)
- (b) "Non-Seismic techniques"
(Dr. Peter Marshall, United Kingdom of Great Britain and Northern Ireland)
- (c) "On-Site activities"
(Mr. Victor S. Slipchenko, Russian Federation)
- (d) "Transparency measures"
(Mr. Bertil Roth, Sweden)

For Working Group 2:

- (e) "Organization"
(Mr. Roberto Jaguaribe, Brazil)
- (f) "Entry into Force"
(Ambassador Alessandro Vattani, Italy)

10. Working Group 1 held 53 meetings. It discussed, on the basis of a paper presented by its Chairman, the possible content of a verification regime and collected text elements for a rolling text. Intensive efforts were made towards establishing the elements of a verification regime. Under the Friends of the Chair, during the second part of the session experts made a considerable number of presentations on the technical aspects of the different

measures of verification of a nuclear test-ban treaty in order to assist delegations in identifying the possible elements of a verification regime and to prepare the ground for the necessary political decisions. During the third part of the session the experts also met informally to provide delegations with alternative options for decisions on details of an international monitoring system and other verification measures, with the objective of helping the Ad Hoc Committee to elaborate treaty language. In addition, the Friends of the Chair held informal consultations with delegations and experts on relevant verification matters. The Chairman of the Working Group presented to the Chairman of the Ad Hoc Committee draft language on provisions on verification issues for inclusion in Part 2 of the rolling text.

11. Working Group 2 held 26 meetings. It discussed the possible content of legal and institutional aspects of a nuclear test ban treaty. Following an extensive debate on each item, the Chairman drafted treaty language which, in the course of several readings, was substantially revised and refined. In addition, the Friends of the Chair on Entry into Force and Organization held numerous bilateral consultations. The Friend of the Chair on Entry into Force developed six options which were subsequently elaborated in draft treaty language. The Friend of the Chair on Organization developed an outline which was later expanded into draft treaty language on a provision on Organization and the relevant Protocol. The draft language of the Friends of the Chair was reviewed and further revised by the Working Group. The Chairman of the Working Group presented to the Chairman of the Ad Hoc Committee draft language on provisions on legal and institutional issues for inclusion in Parts 1 or 2 of the rolling text, depending on their respective stages of development.

IV. CONCLUSIONS AND RECOMMENDATIONS

12. In accordance with its mandate, the Ad Hoc Committee on a Nuclear Test Ban worked intensively during the 1994 session and decided to include the results of its ongoing negotiations on the draft treaty in a rolling text which is contained in the Appendix of the report attached hereto. Part 1 of this Appendix represents the present stage of the elaboration of the provisions of the draft treaty which command a certain degree of consensus at this stage. Part 2 contains provisions which need more extensive negotiation. Part 3 comprises a list of documents containing proposals of delegations.

13. The Ad Hoc Committee recommends to the Conference on Disarmament:

(a) that the Appendix to this report be used for further negotiation and drafting of the treaty;

(b) that other documents listed in paragraphs 5 and 6 above, together with other relevant and future documents of the Conference, also be utilized in the further negotiation and elaboration of the treaty;

(c) that work on the treaty, including meetings with full services, under the chairmanship of Ambassador Marín-Bosch, be continued during the following period:

- 28 November to 16 December 1994;

(d) that the Ad Hoc Committee itself decide whether or not to extend the above-mentioned meetings to include the periods 21 to 25 November 1994, 19 to 23 December 1994 and 9 to 20 January 1995;

(e) that the Ad Hoc Committee on a Nuclear Test Ban be re-established at the outset of the 1995 session of the Conference on Disarmament with its present mandate.

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Appendix

APPENDIX

APPENDIX

Part 1

MEASURES TO REDRESS A SITUATION AND TO ENSURE
COMPLIANCE, INCLUDING SANCTIONS

1. The Conference of the States Parties [and the Executive Council] 1/ shall take the necessary measures as set forth in paragraphs 2, 3 and 4 to ensure compliance with the provisions of the Treaty and to redress and remedy any situation which contravenes the provisions of the Treaty. In considering action pursuant to this paragraph, the Conference of the States Parties [and the Executive Council] shall, [as appropriate,] take into account all information and recommendations on the issues submitted by the States Parties [the Director-General of the Organization] [and the Executive Council]. 2/
2. In cases where a State Party has been requested by the Conference of the States Parties or the Executive Council to redress a situation raising problems with regard to its compliance and fails to fulfil the request within the specified time, the Conference of the States Parties [or the Executive Council] may, inter alia, [upon the recommendation of the Executive Council,] decide, taking into account all information and recommendations submitted according to paragraph 1, to restrict or suspend the State Party from the exercise of its rights and privileges under this Treaty [until it undertakes the necessary action to conform with its obligations under this Treaty or] until the Conference of the States Parties [or the Executive Council] decide otherwise.

1/ Any reference to the Executive Council in the text of the Treaty is without prejudice to the decision on the existence of the Executive Council within the Organization.

2/ A delegation has suggested that some functions might be carried out by a Panel of Experts.

3. In cases where [serious] damage to the object and purpose of this Treaty may result from activities prohibited under this Treaty, 3/ the Conference of the States Parties [or the Executive Council], [upon the recommendation of the Executive Council,] may recommend [collective] measures to States Parties in conformity with international law.

4. [In cases of particular gravity, the Conference of States Parties, or alternatively, if the case is also urgent, the Executive Council,] shall bring the issue, including relevant information and conclusions, to the attention of the General Assembly and the Security Council of the United Nations. 4/

3/ A delegation has proposed adding "withdrawal of a nuclear weapon State or a nuclear advanced State Party to the Treaty".

4/ A delegation has proposed replacing paragraphs 3 and 4 with the following: "In cases where a State Party has been found by the Executive Council to be in non-compliance with the basic obligations of the Treaty, the Executive Council shall bring the issue, including all relevant technical information and evidence, to the attention of the Security Council of the United Nations."

SETTLEMENT OF DISPUTES

1. Disputes that may arise concerning the application or the interpretation of this Treaty shall be settled in accordance with the relevant provisions of this Treaty and in conformity with the provisions of the Charter of the United Nations.
2. When a dispute arises between two or more States Parties, or between one or more States Parties and the Organization, relating to the application or interpretation of this Treaty, the parties concerned shall consult together with a view to the expeditious settlement of the dispute by negotiation or by other peaceful means of the parties' choice, including recourse to appropriate organs of this treaty and, by mutual consent, referral to the International Court of Justice in conformity with the statute of the Court. The parties involved shall keep the Executive Council informed of actions being taken.
3. The Executive Council may contribute to the settlement of a dispute that may arise concerning the application or interpretation of this Treaty by whatever means it deems appropriate, including offering its good offices, calling upon the States Parties to a dispute to seek a settlement through a process of their own choice, bringing the matter to the attention of the Conference of the States Parties and recommending, (if the Executive Council considers necessary,) a time-limit for any agreed procedure.
4. The Conference of the States Parties shall consider questions related to disputes raised by States Parties or brought to its attention by the Executive Council. ^{1/} The Conference shall, as it finds necessary, establish or entrust organs with tasks related to the settlement of these disputes, in conformity with Article ____.
5. The Conference of the States Parties and the Executive Council are separately empowered, subject to the authorization from the General Assembly of the United Nations, to request the International Court of Justice to give an advisory opinion on any legal question arising within the scope of the activities of the Organization. An agreement between the Organization and the United Nations shall be concluded for this purpose, in accordance with Article ____.
6. This Article is without prejudice to Article ____ of this Treaty on measures to redress a situation and ensure compliance, including sanctions, [or to the Protocol to this Treaty].

^{1/} A delegation has suggested that some functions might be carried out by a Panel of Experts.

PRIVILEGES AND IMMUNITIES

1. The Organization shall enjoy on the territory and in any other place under the jurisdiction or control of a State Party such legal capacity and such privileges and immunities as are necessary for the exercise of its functions.
2. Delegates of States Parties, together with their alternates and advisers, representatives appointed to the Executive Council, together with their alternates and advisers, the Director-General and the staff of the Organization, shall enjoy such privileges and immunities as are necessary in the independent exercise of their functions in connection with the Organization.
3. The legal capacity, privileges and immunities referred to in this Article shall be defined in agreements between the Organization and the States Parties as well as in an agreement between the Organization and the State in which the headquarters of the Organization is seated. Such agreements shall be considered and approved by the Conference of the States Parties [or the Executive Council, as necessary].
4. Notwithstanding paragraphs 1 and 2, the privileges and immunities enjoyed by the Director-General and the staff of the Technical Secretariat during the conduct of verification activities shall be those set forth in the Protocol to this Treaty.

SIGNATURE

This Treaty shall be open to all States for signature before its entry into force.

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Appendix

RATIFICATION

This Treaty shall be subject to ratification by signatory States according to their respective constitutional processes.

ACCESSION

Any State which does not sign this Treaty before its entry into force may accede to it at any time thereafter.

DEPOSITARY

1. The Secretary-General of the United Nations shall be the Depositary of this Treaty and shall receive signatures, instruments of ratification and instruments of accession.
2. The Depositary shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or accession, the date of the entry into force of this Treaty and of any amendments [and changes] thereto, any notice of withdrawal and the receipt of other notices. [The Depositary shall also inform the Security Council of the United Nations of any notice of withdrawal.]
3. The Depositary shall send duly certified copies of this Treaty to the Governments of the signatory and acceding States.
4. This Treaty shall be registered by the Depositary in accordance with Article 102 of the Charter of the United Nations.

STATUS OF THE PROTOCOL(S) [AND ANNEX(ES)]

The Protocol(s) [and Annex(es)] to this Treaty form an integral part of the Treaty. Any reference to this Treaty includes the Protocol(s) [and Annex(es)].

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Appendix

AUTHENTIC TEXTS

This Treaty, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

Part 2



Part 2

PREAMBLE

The States Parties to this Treaty, hereinafter referred to as the "States Parties",

[Convinced that the present international situation provides an opportunity to take further effective measures against the proliferation of nuclear weapons in all its aspects,]

[Affirming that effective measures of nuclear disarmament and the prevention of nuclear war have the highest priority, that the early realization of complete prohibition and thorough destruction of nuclear weapons is the common goal of the international community, and that to this end, it is imperative to remove the threat of nuclear weapons, to halt and reverse the nuclear arms race until the total elimination of nuclear weapons and to take other measures to prevent nuclear war, to eliminate the danger of the threat or use of nuclear weapons, and to avoid the proliferation of nuclear weapons in all its aspects],

[Reaffirming that all the nuclear-weapon States, in particular those which possess the most important nuclear arsenals, bear a special responsibility for the realization of thorough nuclear disarmament,]

Welcoming the positive measures adopted in recent years in the field of nuclear disarmament, including deep reductions in arsenals of nuclear weapons, as well as in the field of the prevention of nuclear proliferation in all its aspects, [welcoming the conclusion of the START I and START II agreements, envisaging drastic reductions in present strategic nuclear arsenals,]

Underlining the importance of the full and prompt implementation both of these measures and [of] [all the] other international arms control and disarmament agreements in these fields;

[Stressing the need for further reductions of tactical and strategic nuclear weapons and their delivery systems, [so as to achieve the goals of complete prohibition and thorough destruction of nuclear arms at an early date,]]

[Declaring their intention to undertake further measures towards nuclear disarmament and against the proliferation of nuclear weapons in all its aspects,]

[Urging all States, especially the nuclear-weapon States, soon to support or respond to the proposals or initiatives designed to secure the avoidance of the use of nuclear weapons and the prevention of nuclear war, and urging also the nuclear-weapon States to conclude as soon as possible international agreements on no threat or use of nuclear weapons against non-nuclear-weapon States or nuclear-weapon-free zones, and on no-first-use of nuclear weapons against each other,]

Convinced that an internationally and effectively verifiable [and binding] comprehensive [nuclear test] ban [on all nuclear [weapon] test [explosions] [and any other nuclear explosions]] [within the framework of an effective nuclear disarmament process] would contribute to the prevention of the proliferation of nuclear weapons in all its aspects, to the process of nuclear disarmament and therefore to the enhancement of international peace and security [, and would be in the interest of mankind],

[Noting that the Parties to the 1963 Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water have undertaken, inter alia, to prohibit, to prevent, and not to carry out any nuclear weapon test [explosion], or any other nuclear explosion, in the atmosphere, in outer space or under water, that those Parties expressed their determination to seek to achieve the discontinuance of all test [explosions] of nuclear weapons for all time and to continue negotiations to this end, [and that the obligations for those Parties under that Treaty are not affected by the present obligations,]]

[Recalling the reiteration of this [objective] [aspiration] in the Preamble to the 1968 Treaty on the Non-Proliferation of Nuclear Weapons,]

[Believing that it is of great significance for the prevention of the proliferation of nuclear weapons in all its aspects that all the non-nuclear-weapon States join the Treaty on the Non-Proliferation of Nuclear Weapons and undertake not to acquire or develop nuclear weapons,]

Deeply convinced that, to maximize the contribution of this Treaty to the prevention of the proliferation of nuclear weapons in all its aspects, to the process of nuclear disarmament and therefore to the enhancement of international peace and security, this Treaty should be universal, and urging all States to participate therein,

[Stressing their desire that this Treaty should contribute effectively to the protection of the environment,]

[Seeking international verification means which utilize to the extent possible existing systems of geophysical monitoring, and seeking to make the data acquired from the monitoring systems established pursuant to this Treaty available publicly for research on problems of broad international scientific interest,]

[Affirming that this Treaty seeks to achieve the discontinuance of all nuclear weapon test [explosions] and all other nuclear explosions as well as the discontinuance of all preparations immediately leading thereto,]

Have agreed as follows:

SCOPE

[1. Each [State Party] [of the Parties to this Treaty] undertakes [to prohibit, and to prevent, and] not to carry out, [at any place and] [in any environment,] any nuclear weapon test [explosion] [which releases nuclear energy] [in any form or any type], or any [other] [peaceful] nuclear [test] [explosion], [and undertakes to prohibit and prevent any such nuclear explosion] at any place [under [or beyond] its jurisdiction or control] [, with the exception of any explosions which may be authorized in exceptional circumstances] [.] [:]

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

(b) underground.]

2. Each [State Party] [of the Parties to this Treaty] undertakes, furthermore, to refrain from causing, encouraging, [assisting,] [preparing,] [permitting,] or [in any way] participating in, [the carrying out anywhere of] any [nuclear [test] [explosion] referred to in paragraph 1 of this Article] [nuclear weapon test [explosion] [as referred to in paragraph 1 of this Article] or any] [other] [peaceful] [nuclear explosion] [, which would take place in any of the environments described in paragraph 1 of this Article].]

[PEACEFUL USE OF NUCLEAR ENERGY AND
PEACEFUL NUCLEAR EXPLOSION

1. Peaceful Use of Nuclear Energy

(a) Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the States Parties to develop research, production and use of nuclear energy for peaceful purposes without discrimination.

(b) All the States parties undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy.

2. Peaceful Nuclear Explosion 1/

(a) "Peaceful nuclear explosion" means: the nuclear explosion activity with nuclear fission and/or nuclear fusion, which releases nuclear energy at very fast rate, and which is purely for scientific research or civilian applications.

(b) A nuclear-weapon State Party should submit a request to the Executive Council for approval when it intends to conduct a peaceful nuclear explosion by itself or for a non-nuclear-weapon State Party as requested by the latter. The request to the Executive Council shall contain such details as the purpose, site and time of the intended explosion. The request shall be approved by a two-thirds majority of the members of the Executive Council present and voting.

(c) At the explosion site, the detection instrument and equipment installed by the Nuclear Weapon State which provided the explosion device shall be of the role only to detect the yield of the explosion. No instrument or equipment shall be installed which can possibly be used for nuclear weapon test purposes.

(d) In the Verification Protocol annexed to this Treaty, special chapters and articles shall be set up, and detailed provisions shall be made for the monitoring and verification of peaceful nuclear explosions.]

1/ A number of delegations oppose the inclusion in this Treaty of any section on so-called Peaceful Nuclear Explosions.

THE ORGANIZATION

1. The States Parties to this Treaty hereby establish a body [, the Organization for the Complete Prohibition of Nuclear Tests] [the Comprehensive Test-Ban Treaty Organization], hereinafter referred to as the "Organization" to [promote the objectives] [achieve the object and purpose] of this Treaty, to ensure the implementation of its provisions, including those for international verification of compliance with it, and to provide a forum for consultation and cooperation among States Parties.

2. All States Parties to this Treaty shall be members of the Organization. [No State Party should be deprived of its membership in the Organization.]

3.1 The seat of the Organization shall be in [...] [Vienna].

[3.2 The Organization shall conduct its verification activities provided for under this Treaty in the least intrusive manner possible consistent with the timely and efficient accomplishment of their objectives. It shall request only the information and data necessary to fulfil its responsibilities under this Treaty. It shall take every precaution to protect the confidentiality of information on civil and military activities and facilities coming to its knowledge in the implementation of this Treaty and, in particular, shall abide by the provisions set forth in the Confidentiality Annex.]

[4.1 The Organization shall conclude an agreement with the International Atomic Energy Agency (IAEA) through which the IAEA shall be entrusted with the verification responsibilities determined by this Treaty [and its Protocol] and with the rendering of all conference, logistic and infrastructural support required by the Organization.] 1/

[4.2 The Organization shall seek to benefit from existing international expertise and facilities where possible, and to maximize cost efficiencies, by developing a collaboration with the International Atomic Energy Agency and other bodies whereby functions of the Organization are delegated to the maximum degree consistent with adequate financial and resource management. Such arrangements (excluding those of a minor and normal commercial and contractual nature) are to be set out in agreements, which are to be submitted to the Conference of the States Parties for approval.] 2/

1/ A delegation stated that a decision on the Organization could only be taken after a comparative cost estimate is made with regard to the various proposed options in this regard.

2/ Some delegations suggest that an option for the Organization might be an Organization entirely independent of the IAEA.

5.1 There are hereby established as organs of the Organization the Conference of the States Parties, hereinafter referred to as the "Conference", the Executive Council 3/ and the [Technical] Secretariat which shall include an International Data Centre.

[5.2 The election of the members in the Executive Council and the recruitment of the staff in the [Technical] Secretariat (including the International Data Centre) shall follow the principle of equitable geographical distribution.]

[5.3 The paramount consideration in the employment of the staff and in the determination of the conditions of service shall be the necessity of securing the highest standards of efficiency, competence and integrity. Due regard shall be paid to the importance of recruiting the staff on as wide a geographical basis as possible.]

6. The Conference shall establish such subsidiary organs as it finds necessary for the exercise of its functions in accordance with this Treaty.

7. The costs of the Organization's activities shall be paid by the States Parties in accordance with the United Nations scale of assessments adjusted to take into account differences in membership between the United Nations and this Organization [and subject to provisions of Articles ...].

8. A member of the Organization which is in arrears in the payment of its assessed contribution to the Organization shall have no vote in the Organization if the amount of its arrears equals or exceeds the amount of the contribution due from it for the preceding two full years. [The Conference may, nevertheless, permit such a member to vote if it is satisfied that the failure to pay is due to conditions beyond the control of the member.]

The Conference of the States Parties

9. The Conference of the States Parties is composed of all States Parties. It is the principal organ of the Organization and shall:

(a) consider any questions, matters or issues within the scope of this Treaty, including those related to the power and functions of the Executive Council and the [Technical] Secretariat [as set out in the Treaty];

(b) oversee the implementation of, and compliance with, this Treaty;

(c) oversee the activities of the Executive Council and of the [Technical] Secretariat; and

[(d) oversee the implementation of the Agreement between the Organization and the IAEA].

3/ Any reference to the Executive Council in the text of the Treaty is without prejudice to the decision on the existence of the Executive Council within the Organization.

[(e) appoint the [Director-General] of the [Technical] Secretariat.]

[(f) foster international cooperation for peaceful purposes in the field of nuclear activities.]

10. The Conference shall take decisions on matters of procedure, including decisions to convene special sessions of the Conference [, by a simple majority of the members present and voting. Decisions on matters of substance shall be taken [as far as possible] by consensus. [If consensus is not attainable, when an issue comes up for decision, the President of the Conference shall defer any vote for 24 hours and during this period of deferment shall make every effort to facilitate achievement of consensus, and shall report to the Conference before the end of this period. If consensus is not possible at the end of 24 hours, the Conference shall take a decision by a two-thirds majority of members present and voting unless specified otherwise in this Treaty.] When the issue arises as to whether the question is one of substance or not, that question shall be treated as a matter of substance unless otherwise decided by the majority required for decisions on matters of substance].

The Executive Council

11. The Executive Council, which is the executive organ of the [Organization] [Conference of the States Parties], shall:

(a) promote effective implementation of, and compliance with, this Treaty [as set out in the Treaty];

(b) carry out the powers and functions entrusted to it under this Treaty as well as those delegated to it by the Conference of the States Parties [as set out in the Treaty];

[(c) supervise the [operation] [activities] [implementation of functions and duties] of the [Technical] Secretariat [, in particular the operation of the International Data Centre].]

[(d) supervise the operation of the Agreement between the Organization and the IAEA;] and

(e) provide a forum for [handling] [considering] complaints and allegations of non-compliance, [applications to conduct peaceful nuclear explosions] [or requests for [challenge] on-site inspections] [and approval of such requests by a two-thirds majority of all its members] [decide whether sufficient grounds exist for an on-site inspection] [based on the report of the [Technical] Secretariat, including the expert evaluation and recommendations regarding the suspected event].

[(f.1) oversee the international exchange of routine monitoring data among all States Parties through the activities of the International Data Centre; and]

[(f.2) make a judgement on the data information of possible non-compliance provided by the International Data Centre and preliminarily analyzed and assessed by the [Technical] Secretariat.]

[(g.1) receive, take any necessary action, and implement requests from States Parties for on-site inspections as provided for in the Protocol to this Treaty.]

[(g.2) examine and take decision on the request for conducting a peaceful nuclear explosion.]

[(h) examine and take decision on the request for conducting a challenge on-site inspection.]

[(i) review the final report of the challenge on-site inspection team and take decisions on, inter alia, whether any non-compliance has occurred, whether the request for the challenge on-site inspection had been within the scope of this Treaty, or whether the right to request a challenge on-site inspection had been abused.]

[12.1 The Executive Council shall consist of [41] [65] members. It shall comprise the members of the Board of Governors of the IAEA that are States Parties to this Treaty and additional members to be elected by the Conference for periods of two years, with due regard being given to an equitable geographical distribution. These additional members shall be elected from among States Parties to this Treaty which are not members of the Board of Governors of the IAEA, including those that are not members of the IAEA. The elections to the Executive Council are to be held after the elections of the Board of Governors and the tenure of the members of the Executive Council shall coincide with that of the members of the Board of Governors of the IAEA.]

[12.2 The Executive Council shall comprise ... States Parties elected for a period of two years by the Conference, [with due regard being given to an equitable [political] and geographical distribution] [on a rotational basis with no State Party excluded]. [Each of the nuclear-weapon States shall have a permanent seat therein.] [In addition, the States Parties that are nuclear-weapon States Parties to the Nuclear Non-Proliferation Treaty of 1968 shall be members of the Executive Council.]

[12.3 The Executive Council shall be composed as follows:

(a) The Conference of the States Parties shall designate for membership on the Executive Council the 10 members most advanced in the technology of nuclear energy including the production of source materials, and the member most advanced in the technology of nuclear energy including the production of source materials in each of the following areas in which none of the aforesaid 10 is located:

1. North America
2. Latin America

3. Western Europe
4. Eastern Europe
5. Africa
6. Middle East and South Asia
7. South East Asia and the Pacific
8. Far East

(b) The Conference of the States Parties shall elect to membership of the Executive Council:

(i) Twenty members with due regard to equitable representation on the Council as a whole of the members in the areas listed in sub-paragraph (a) of this paragraph so that the Council shall at all times include in this category five representatives of the area of Latin America, four representatives of the area of Western Europe, three representatives of the area of Eastern Europe, four representatives of the area of Africa, two representatives of the Middle East and South Asia, one representative of the area of South East Asia and the Pacific, and one representative of the area of the Far East. No member in this category in any one term of office will be eligible for re-election in the same category for the following term of office, and

(ii) one further member from among the members in the following areas:

- Middle East and South Asia
- South East Asia and the Pacific
- Far East

(iii) one further member from among the members in the following areas:

- Africa
- Middle East and South Asia
- South East Asia and the Pacific

(c) The designations provided for in subparagraph (a) of this paragraph shall take place at the first meeting of the Conference and thereafter at regular annual sessions of the Conference, in accordance with IAEA data. Members so designated shall hold office from the end of the session of the Conference at which they were designated until the end of the following regular annual session of the Conference.

(d) The elections provided for in subparagraph (b) of this paragraph shall take place at the first meeting of the Conference and thereafter at regular annual sessions of the Conference. Members so elected shall hold

office from the end of the session of the Conference at which they are elected until the end of the second regular annual session of the Conference thereafter except in the first year, when half of the members shall hold office until the end of the following regular annual session of the Conference, due regard being paid to the established numerical proportions specified in subparagraph (b).

(e) The countries included in each of the geographical areas referred to in this paragraph are listed in Annex [...].]

[13. Unless otherwise specified in this Treaty, the Executive Council shall take decisions on matters of substance [including the decision to approve a request for an on-site inspection] by a two-thirds majority of all its members [present and voting]. The Executive Council shall take decisions on matters of procedure by a simple majority of all its members [present and voting]. When the issue arises as to whether the question is one of substance or not, that question shall be treated as a matter of substance unless otherwise decided by the majority required for decisions on matters of substance.]

The [Technical] Secretariat

[14.1 The [Technical] Secretariat [as an international, professional and impartial organ] shall assist Member States, the Executive Council and the Conference of States Parties and shall, in particular:

(a) receive and process requests for on-site inspections, in accordance with the provisions of Article ...;

[(b) carry out the administrative responsibilities related to the Agreement between the Organization and the IAEA, including the expedition of all required notifications].

[14.2 The [Technical] Secretariat [as an international, professional and impartial organ] shall assist States Parties, the Conference of the States Parties and the Executive Council in the performance of their functions.

The [Technical] Secretariat shall be headed by a Director-General. [The [Technical] Secretariat shall include, as an integral part, the International Data Centre.] The [Technical] Secretariat shall:

(a) be responsible for the verification measures provided for in the Treaty and carry out such other functions as may be entrusted to it by the Conference of States Parties or the Executive Council [as set out in the Treaty];

(b) coordinate international cooperative arrangements to receive, [analyze] and facilitate an exchange on data obtained through the International Monitoring System;

(c.1) conduct on-site monitoring and inspection in accordance with the procedures set out in the Treaty;

[(c.2) routinely analyze the monitored data of the International Monitoring System with the aim of identifying, according to pre-defined criteria specified in Part ... of the Protocol, significant events indicating a possible non-compliance with the basic obligations of this Treaty;]

[(d.1) cooperate with the national authorities of the States Parties to resolve uncertainties that a State Party may have about an event relevant to compliance with the Treaty.]

[(d.2) conduct an expert evaluation with a suspected State Party to resolve a significant event detected by the International Monitoring System or other reliable evidence of non-compliance submitted by States Parties.]

[(e) be responsible for, supervise and coordinate the operation of the six international monitoring networks under this Treaty.]

[(f) operate an International Data Centre to serve as the data-gathering and data-dissemination and preliminary technical analysis and assessment centre for the six international monitoring networks.]

[(g) from the scientific and technical perspective, preliminarily analyze and assess the data obtained through the six international monitoring networks under this Treaty, and report suspicious events to the Executive Council for its judgement and decision.]]

15.1 The duties, functions and organization of the Conference of the States Parties, the Executive Council and the [Technical] Secretariat are further outlined in the Protocol to this Treaty.

[15.2 The International Data Centre shall [receive] collect, [process] [analyze,] [make preliminary analysis] and archive all data received by the [verification system] [international monitoring system] and produce bulletins of detected events in a timely manner. The International Data Centre shall also receive and archive data from on-site inspections and on-site visits.]

[15.3 The [Technical] Secretariat shall include, as an integral part, the International Data Centre. The International Data Centre will supervise the International Monitoring System, collect and disseminate the monitoring data, and analyze that data with the aim of identifying significant events indicating possible non-compliance with the basic obligations of the Treaty.]

[15.4 The International Data Centre shall:

- receive, restore, and categorize the data transmitted from the six international monitoring networks, and assist in the preliminary analysis and assessment of such data, in the dissemination of data to all the States Parties and in reporting to the Executive Council;
- assist in ensuring the proper operation of the international monitoring networks under this Treaty in accordance with the established criteria and standards.]

PROTOCOL

Section I. The Organization

Part 1. The Conference of the States Parties

Composition, procedure [and decision-making]

1. Each State Party shall have one representative in the Conference, who may be accompanied by alternates and advisers.
 2. The first session of the Conference shall be convened by the Depositary no later than [30] days after entry into force of this Treaty.
 3. The Conference shall meet annually [, following the annual meeting of the General Conference of the IAEA], unless it decides otherwise.
 4. A special session of the Conference shall be convened:
 - (a) when decided by the Conference;
 - (b) [when requested by the Executive Council;]
 - (c) when requested by any State Party and supported by [one third] of the States Parties; or
 - (d) in accordance with Article ___ of this Treaty to undertake reviews of the operation of this Treaty.
- The special session shall be convened no later than 30 days after the decision of the Conference, [the request of the Executive Council,] or the attainment of the necessary support, unless specified otherwise in the decision or request.
5. The Conference may also be convened in the form of an Amendment Conference, in accordance with Article ___ of this Treaty.
 6. Sessions shall take place at the Headquarters of the Organization unless the Conference decides otherwise.
 7. The Conference shall adopt its rules of procedure. At the beginning of each session, it shall elect its President and such other officers as may be required. They shall hold office until a new President and other officers are elected at the next session.
 8. A simple majority of the States Parties shall constitute a quorum.
 9. Each State Party shall have one vote.

Powers and functions

10. The Conference shall consider any questions, matters or issues within the scope of this Treaty, including those relating [to the Agreement between the Organization and the IAEA and those relating] to the powers and functions of the Executive Council and the [Technical] Secretariat. It may make recommendations and take decisions on any questions, matters or issues within the scope of this Treaty raised by a State Party or brought to its attention by the Executive Council.

11. The Conference shall review compliance with the provisions of this Treaty. It shall also oversee the activities of the Executive Council and the [Technical] Secretariat and may issue guidelines in accordance with this Treaty to either of them for the exercise of their functions. [It may also issue guidelines to the IAEA, in accordance with the Agreement between the Organization and the IAEA.]

12. The Conference shall:

(a) consider and adopt the report of the Organization on the implementation of this Treaty and the annual programme and budget of the Organization, submitted by the Executive Council, as well as consider other reports;

(b) decide on the scale of financial contributions to be paid by States Parties in accordance with Article ___ of this Treaty;

(c) elect [and designate] the members of the Executive Council [in accordance with the provisions of this Treaty];

(d) appoint the [Director-General];

(e) consider and approve the rules of procedure of the Executive Council submitted by the latter;

[(f) Review scientific and technological developments that could affect the operation of this Treaty [and, in this context, direct the Director-General [of the IAEA, in accordance with the Agreement between the Organization and the IAEA] to establish a Scientific Advisory Board to enable him, in the performance of his functions, to render specialized advice in areas of science and technology relevant to this Treaty, to the Conference, the Executive Council or States Parties. The Scientific Advisory Board shall be composed of independent experts appointed in accordance with terms of reference adopted by the Conference;]]

(g) take the necessary measures to ensure compliance with this Treaty and to redress and remedy any situation that contravenes the provisions of this Treaty, in accordance with Article ___ of this Treaty;

(h) consider and approve at its first session any draft agreements, provisions and guidelines developed by the Preparatory Commission [,including the Agreement between the Organization and the International Atomic Energy Agency (IAEA), in accordance with Article ___ of this Treaty].

Part 2. The Executive Council

Composition, procedures [and decision-making]

1. Each member of the Executive Council shall have one representative in the Executive Council, who may be accompanied by alternates and advisers.

[2.1 For the first election of the Executive Council ___ members shall be elected for a term of one year, due regard being paid to the [distribution] [principles of membership] described in Article ___ of this Treaty.]

[2.2 The Conference shall elect as many candidates as are necessary to complete the composition of 41 members to the Executive Council, in accordance with Article ___ of this Treaty. For the first election [41] [65] members shall be elected for a term of one year.]

3. The Executive Council shall elaborate its rules of procedure and submit them to the Conference for approval.

4. The Executive Council shall elect its Chairman from among its members.

5.1 The Executive Council shall meet for regular sessions. Between regular sessions it shall meet as may be required for the fulfilment of its powers and functions.

5.2 [... members of the Executive Council shall constitute a quorum]

Powers and Functions

6. The Executive Council is responsible to the Conference. It shall carry out the powers and functions entrusted to it under this Treaty and this Protocol, as well as such functions delegated to it by the Conference [as set out in the Treaty]. In so doing, it shall act in conformity with the recommendations, decisions and guidelines of the Conference and ensure their continuous and proper implementation.

7.1 The Executive Council shall:

[(a) facilitate consultations and cooperation among States Parties [and the Secretariat], including the resolution of ambiguous events through information exchanges and further cooperation;]

[(b) direct the [Technical Secretariat] [IAEA, in accordance with the Agreement between the Organization and the IAEA] to begin preparations for an on-site inspection immediately upon receipt of a request] [from the Technical Secretariat];

(c) make recommendations as necessary to the Conference for consideration of further proposals for promoting the object and purpose of this Treaty;

(d) cooperate with the National Authority of each State Party;

(e) consider and submit to the Conference the draft annual programme and budget of the Organization, the draft report of the Organization on the implementation of this Treaty, [the report of the IAEA, in accordance with the Agreement between the Organization and the IAEA], the report on the performance of its own activities and such other reports as it deems necessary or which the Conference may request;

(f) make arrangements for the sessions of the Conference, including the preparation of the draft agenda;

(g) examine proposals for changes, on matters of an administrative or technical nature, [to the Agreement between the Organization and the IAEA, in accordance with that Agreement] and to this Protocol, pursuant to Article ___ of this Treaty, and make recommendations to the States Parties regarding their adoption;

(h) conclude agreements or arrangements with States and international organizations on behalf of the Organization, subject to prior approval of the Conference;

(i) approve agreements or arrangements relating to the implementation of the verification activities negotiated with States Parties by the [Technical Secretariat] [IAEA, in accordance with the Agreement between the Organization and IAEA];

(j) [approve Operational Manuals [prepared by the Technical Secretariat]];

(k) consider any issue or matter within its competence relating to this Treaty and its implementation, including concerns raised by a State Party regarding compliance, and cases of non-compliance, and, as appropriate, notify States Parties and bring the issue or matter to the attention of the Conference.

7.2 [The Executive Council may request a special session of the Conference.]

8. In its consideration of concerns regarding compliance and cases of non-compliance, including, inter alia, abuse of the rights established by this Treaty, the Executive Council shall consult with the States Parties involved and, as appropriate, request a State Party to take measures to redress the situation [,if necessary,] within a specified time. To the extent that the Executive Council considers further action to be necessary, it shall take, inter alia, one or more of the following measures:

(a) notify all States Parties of the issue or matter;

(b) bring the issue or matter to the attention of the Conference;

(c) make recommendations to the Conference regarding measures to redress the situation and to ensure compliance.

9. [The Executive Council shall, in cases of particular gravity and urgency, bring the issue or matter, including [the] [all reliable evidence and other] relevant information and conclusions, directly to the attention of the General Assembly [or] [and] or the Security Council of the United Nations. It shall at the same time notify all States Parties of this action.

[Part 3. The Secretariat

1. The Secretariat shall carry out the functions entrusted to it by this Treaty, as well as those functions delegated to it by the Conference or the Executive Council [in accordance with this Treaty]. In so doing, it shall act in conformity with the recommendations, decisions, and guidelines of the Conference and the Executive Council and ensure their continuous and proper implementation.

2. The Secretariat shall consist of a [Director-General], appointed by the Conference [upon the recommendation by the Executive Council] for a period of four years, who shall be its head and chief administrative officer, and such other personnel as may be required. The [Director-General] may be reappointed for one additional term, but not thereafter. Only citizens of States Parties shall serve as members of the staff of the Secretariat.

3. The [Director-General] shall be responsible to the Conference and the Executive Council for the appointment of the staff and for the organization and functioning of the Secretariat. The paramount consideration in the employment of the staff and in the determination of the conditions of service shall be the necessity of securing the highest standards of [professional expertise, experience] efficiency, competence and integrity. [Due regard shall be paid to the importance of recruiting the staff on as wide a geographical basis as possible]. [The Secretariat should also be staffed strictly in accordance with the principle of equitable geographic distribution]. Recruitment shall be guided by the principle that the staff shall be kept to the minimum necessary for the proper discharge of the responsibilities of the Secretariat, and the Professional Staff shall not exceed ____.

4. The Secretariat shall:

(a) [[direct the IAEA, in accordance with the Agreement between the Organization and the IAEA, to] begin preparations for an on-site inspection [immediately upon [its identification of a significant suspected event or upon] receipt of a request from a State Party] [concurrently with the expert evaluation of the event, being conducted with the suspected State Party]];

(b) prepare and submit to the Executive Council the draft programme and budget of the Organization;

(c) prepare and submit to the Executive Council the draft report of the Organization on the implementation of this Treaty and such other reports as the Conference or the Executive Council may request;

(d) address and receive communications on behalf of the Organization relating to the implementation of this Treaty;]

[Part 3. The Technical Secretariat

1. The Technical Secretariat shall carry out the functions entrusted to it by this Treaty, as well as those functions delegated to it by the Conference or the Executive Council [in accordance with this Treaty]. In so doing, it shall act in conformity with the recommendations, decisions, and guidelines of the Conference and the Executive Council and ensure their continuous and proper implementation.

2. The Technical Secretariat shall:

(a) [coordinate international cooperative arrangements to receive, process [analyze] and make reports on technical data relevant to the monitoring of this Treaty;]

[(b) begin preparations for an on-site inspection immediately upon [its identification of a significant suspected event or upon] receipt of a request from a State Party; [concurrently with the expert evaluation of the event, being conducted with the suspected State Party]]

(c.1) [conduct on-site monitoring and inspection pursuant to the provisions of Article ___ and Section II of this Protocol;]

(c.2) [Conduct on-site monitoring and voluntary inspection at the invitation of a State Party or otherwise pursuant to the provisions of Article ___ and Section II of this Protocol;]

(c.3) [Conduct on-site inspection upon approval of the Executive Council;]

(d) cooperate with the National Authorities of the States Parties to resolve uncertainties regarding compliance with the Treaty;

(e) assist the States Parties on other issues of verification under this Treaty;

(f) negotiate agreements or arrangements relating to the implementation of verification activities with States Parties, subject to approval by the Executive Council;

(g) make arrangements, as appropriate, to receive data relevant to this Treaty from national, regional or international data management centres.

3. [The Technical Secretariat shall develop and maintain, subject to approval by [the Executive Council] [the Conference] Operational Manuals to guide the operation of the various components of the verification system, in accordance with Article ___ of this Treaty and Section ___ of this Protocol.] These Manuals shall not constitute integral parts of this Treaty or this Protocol and may be changed by the Technical Secretariat subject to approval by [the Executive Council] [the Conference] [in accordance with agreed procedures. The Technical Secretariat shall promptly inform the States Parties of any changes in the Operational Manuals].

4. The Technical Secretariat shall coordinate the operation of the monitoring networks established under the International Monitoring System. In this connection, the Technical Secretariat shall:

(a) operate the International Data Centre to process, [analyze] and report on the data gathered by the verification [system] [networks];

(b) supervise and coordinate stations in the monitoring networks;

(c) ensure that the operation of participating stations and their reporting are in compliance with the relevant Operational Manuals;

(d) provide technical assistance in, and support for, the installation and operation of monitoring stations in regions of the world where such assistance and support is needed;

(e) compile and assess the results and experiences of the operation of the monitoring networks.

5.1 [The International Data Centre shall [receive] collect, [process] [analyze] [make preliminary analysis], and archive all data received by the [verification system] [international monitoring system] and produce bulletins of detected events in a timely manner. The International Data Centre shall also receive and archive data from on-site inspections and on-site visits.]

5.2 [The Technical Secretariat shall routinely analyze the monitored data of the International Monitoring System with the aim of identifying, according to pre-defined criteria specified in Part ___ of the Protocol, significant events indicating a possible non-compliance with the basic obligations of this Treaty.]

5.3 [The Technical Secretariat shall conduct an expert evaluation with a suspected State Party to resolve a significant event detected by the International Monitoring System or other reliable evidence of non-compliance submitted by States Parties.]]

[6. The Technical Secretariat shall receive, compile, [analyze] and make available to all States Parties any additional information that a State Party may provide to it.]

7. [If so requested, the Technical Secretariat shall forward any request for information made by any State Party to any other State Party regarding any event relevant to this Treaty occurring on the territory or at any other place under the jurisdiction or control of the latter State. The Technical Secretariat shall receive, compile, and report to the requesting State any information received in response to such requests.]

8. The Technical Secretariat shall facilitate [expert] consultations among States Parties to resolve issues related to the verification of this Treaty.

9. The Technical Secretariat shall consist of a Director-General, appointed by the Conference [on the recommendation of the Executive Council] for a period of four years, who shall be its head and chief administrative officer, and such scientific, technical, and other personnel as may be required. The Director-General may be reappointed for one additional term, but not thereafter. Only citizens of States Parties shall serve as members of the staff of the Technical Secretariat.

10. The Director-General shall be responsible to the Conference and the Executive Council for the appointment of the staff and for the organization and functioning of the Technical Secretariat. The paramount consideration in the employment of the staff and in the determination of the conditions of service shall be the necessity of securing the highest standards of [professional expertise, experience,] efficiency, competence and integrity. [Due regard shall be paid to the importance of recruiting the staff on as wide a geographical basis as possible]. [The Secretariat shall also be staffed strictly in accordance with the principle of equitable geographic distribution]. Recruitment shall be guided by the principle that the staff shall be kept to the minimum necessary for the proper discharge of the responsibilities of the Technical Secretariat.

11. [The Director-General shall be responsible for the organization and functioning of the Scientific Advisory Board referred to in paragraph 12 (f) of Part 1 of this Section. The Director-General shall, in consultation with States Parties, appoint members of the Scientific Advisory Board, who shall serve in their individual capacity. The members of the Board shall be appointed on the basis of their expertise and experience in the particular scientific fields relevant to the implementation of this Treaty. [The Director-General may also, as appropriate, in consultation with members of the Board, establish temporary working groups of scientific experts to provide recommendations on specific issues. In regard to the above, States Parties may submit lists of experts to the Director-General.]]

12. In the performance of their duties, the Director-General, the inspectors and the members of the staff shall not seek or receive instructions from any Government or from any other source external to the Organization. They shall refrain from any action that might reflect adversely on their positions as international officers responsible only to the Organization.

13. Each State Party shall respect the exclusively international character of the responsibilities of the Director-General, the inspectors and the members of the staff and shall not seek to influence them in the discharge of their responsibilities.

14. The Technical Secretariat shall:

(a) prepare and submit to the Executive Council the draft programme and budget of the Organization;

(b) prepare and submit to the Executive Council the draft report of the Organization on the implementation of this Treaty and such other reports as the Conference or the Executive Council may request;

(c) provide administrative and technical support to the Conference, the Executive Council and other subsidiary organs;

(d) address and receive communications on behalf of the Organization relating to the implementation of this Treaty;

(e) provide technical assistance and support [and technical evaluation] to States Parties in the implementation of the provisions of this Treaty.

15. [The Technical Secretariat shall [comprehensively] inform the Executive Council of any problems that have arisen with regard to the discharge of its functions, including doubts, ambiguities or uncertainties about compliance with this Treaty and this Protocol that have come to its notice in the performance of its monitoring and inspection activities and that it has been unable to resolve or clarify through its consultations with the State Party concerned.]]

RESERVATIONS

[The Articles of this Treaty shall not be subject to reservations. The provisions of the Protocol of this Treaty shall not be subject to reservations incompatible with its object and purpose.] 1/

1/ A delegation is of the view that at this stage all possible options with respect to the provision on Reservations should be kept open.

ENTRY INTO FORCE

1.1 [This Treaty shall enter into force 180 days after the date of the deposit of the [... th] instrument of ratification including ...], but in no case earlier than two years after its opening for signature.]

1.2 [This Treaty shall enter into force 180 days after the date of the deposit of the instrument of ratification by [... per cent of] all States which have, have ever had, or have under construction, nuclear power or nuclear research reactors at the date of the opening of the Treaty for signature, but in no case earlier than two years after its opening for signature.]

For the purposes of this Treaty, a State which has, has ever had, or has under construction, nuclear power or nuclear research reactors is one so specified in the International Atomic Energy Agency list contained in Annex ... to this Treaty.]

1.3 [This Treaty shall enter into force when the following requirements have been met:

(a) One year after the ratification by all the member States of the Conference on Disarmament which are members at the time when the Treaty is open for signature and all the countries known to the International Atomic Energy Agency at that time as having nuclear capabilities (i.e. in possession of nuclear power stations or nuclear reactors);

(b) Not earlier than two years after this Treaty is open for signature.]

1.4 [This Treaty shall enter into force 180 days after the date of the deposit of the instrument of ratification by all States members of the Conference on Disarmament and all States which have applied for membership prior to ..., but in no case earlier than two years after its opening for signature.]

1.5 [This Treaty shall enter into force 180 days after the date of the deposit of the instrument of ratification by all States members of the Conference on Disarmament, and observers to the Conference on Disarmament during the ... session as specified in the Annex ..., but in no case earlier than two years after its opening for signature.]

1.6 [This Treaty shall enter into force 180 days after the date of the deposit of the instrument of ratification by 80 per cent of the States (members or observers to the Conference on Disarmament) which participated in the negotiations, but in no case earlier than two years after its opening for signature.]

2. 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 [30th day following the date] [date] of deposit of their instruments of ratification or accession.

DURATION AND WITHDRAWAL

1. This Treaty [is of a permanent nature and shall remain in force indefinitely] [is of limited nature and shall remain in force for ... years] [shall be of unlimited duration]. Each State Party shall, in exercising its national sovereignty, have the right to withdraw from this Treaty if it decides that extraordinary events [,in particular, developments altering the conditions which have allowed the entry into force of this Treaty] [related to the subject matter of this Treaty,] [such as another State Party violating provisions essential to the object and purpose of this Treaty, or has acted in violation of the spirit of this Treaty,] have jeopardized its supreme interests. [A nuclear test by a State Party or non-State Party may be sufficient reason for withdrawal.]
2. Withdrawal shall be effected by giving notice [three] [six] [twelve] months in advance to [all other States Parties, the Executive Council and] the Depositary [who shall circulate such notice to all other Parties] and the United Nations Security Council. Notice of withdrawal shall include a statement of the extraordinary event(s) which a State Party regards as jeopardizing its supreme interests.
- [3. The withdrawal of a State Party from this Treaty shall not in any way affect the duty of this State or other States to continue fulfilling the obligations assumed under other international agreements related to non-proliferation of nuclear weapons, nuclear arms control, nuclear disarmament and security assurances against the use of nuclear weapons.]

AMENDMENTS

1. At any time after the entry into force of this Treaty, any State Party may propose amendments to the Treaty [or amendments or changes to the annexed Protocol]. [Such amendments should not be incompatible with the object and purpose of this Treaty.] The proposed amendment shall be considered and adopted only by an Amendment Conference.
2. Any proposal for an amendment shall be communicated to the [Director-General] [Depositary], who shall circulate it to all States Parties [the Executive Council] [and the Depositary] and seek their views on whether an Amendment Conference should be convened to consider the proposal. If [one-third or more] [a majority, that shall not be less than thirty of the States Parties, including the nuclear-weapon States] [two-thirds] of the States Parties [, including the five nuclear-weapon States,] [so agree, the Depositary shall] notify the Director-General not later than [...] days after its circulation that they support further consideration of the proposal, [the Director-General] shall convene an Amendment Conference to which all States Parties shall be invited [the Executive Council shall decide on whether to convene an Amendment Conference by a simple majority].
3. [As a rule, the Amendment Conference shall be held immediately following a regular session of the Conference, unless the requesting States Parties ask for an earlier meeting and the Executive Council so decides by a two-thirds majority.] [The Amendment Conference shall be held immediately following a regular session of the Conference, unless a majority of the States Parties which support the convening of an Amendment Conference request that it be held earlier.] In no case shall an Amendment Conference be held less than 60 days after the circulation of the proposed amendment.
4. Amendments shall be adopted by the Amendment Conference by a positive vote of [a majority of] [all] the States Parties [present and voting] [including the five nuclear-weapon States] [with no State Party casting a negative vote].
5. [Amendments shall enter into force for all States Parties 30 days after the deposit of the instruments of ratification or acceptance by all the States Parties casting a positive vote at the Amendment Conference.] [Amendments shall enter into force for a State Party after the deposit of instrument of ratification by it and 30 days after the deposit of the instruments of ratification by a majority of all the State Parties.]
- [6. In order to ensure the viability and effectiveness of this Treaty, [x,y,z..] provisions in the Protocol shall be subject to changes in accordance with paragraph 7, if the proposed changes are related only to matters of an administrative or technical nature. Sections [x,y,z..] of the Protocol shall not be subject to changes in accordance with paragraph 7.]

[7. Proposed changes referred to in paragraph 6 shall be made in accordance with the following procedures:]

[(a) The text of the proposed changes shall be transmitted together with the necessary information to the Director-General. Additional information for the evaluation of the proposal may be provided by any State Party and the Director-General. The Director-General shall promptly communicate any such proposals and information to all States Parties, the Executive Council and the Depositary;

(b) No later than 60 days after its receipt, the Director-General shall evaluate the proposal to determine all its possible consequences for the provisions of this Treaty and its implementation and shall communicate any such information to all States Parties and the Executive Council;

(c) The Executive Council shall examine the proposal in the light of all information available to it, including whether the proposal fulfils the requirements in paragraph 6. Not later than 90 days after its receipt, the Executive Council shall notify its recommendation, with appropriate explanations, to all States Parties for consideration. States Parties shall acknowledge receipt within 10 days;

(d) If the Executive Council recommends to all States Parties that the proposal be adopted, it shall be considered approved if no State Party objects to it within 90 days after receipt of the recommendation. If the Executive Council recommends that the proposal be rejected, it shall be considered rejected if no State Party objects to the rejection within 90 days after receipt of the recommendation;

(e) If a recommendation of the Executive Council does not meet with the acceptance required under subparagraph (d), a decision on the proposal, including whether it fulfils the requirements of paragraph 6, shall be taken as a matter of substance by the Conference at its next session;

(f) The Director-General shall notify all States Parties and the Depositary of any decision under this paragraph;

(g) Changes approved under this procedure shall enter into force for all States Parties [30] [180] days after the date of notification by the Director-General of their approval unless another time period is recommended by the Executive Council or decided by the Conference.]

REVIEW OF THE TREATY

[1. [Five] [Ten] years after the entry into force of this Treaty, or earlier if so requested by a majority of the States Parties to the Treaty, by submitting a proposal to this effect to the Depositary, a Conference of the States Parties to the Treaty shall be held to review the operation of the Treaty [and the issues related to the Treaty such as nuclear disarmament] [in order to take into account, in particular, the developments in the international situation,] [with a view to assuring that the [object and] purpose of the [preamble and the provisions of the] Treaty [is] [are] being realized]. [Notwithstanding the provisions of paragraph 2 of Article ... (Duration and Withdrawal) of the Treaty, a State Party may at this time, pursuant to an affirmative decision on its part, elect to withdraw from the Treaty. A State Party so doing shall give other States Parties 180 days advance notice of its decision. The States Parties in attendance at the Conference shall have an opportunity to consider and discuss together the potential consequences of the implementation of any such decision.] 1/ [Such review shall take into account any new scientific and technological developments relevant to the Treaty.]

2. At intervals of 10 years thereafter, a majority of States Parties to the Treaty may obtain, by submitting a proposal to this effect to the Depositary, the convening of further Conferences [with the same objectives] [to review the operation of the Treaty, with a view to assuring that the object and purpose of the [Preamble and the provisions of the] Treaty are being realized]. [Such a conference may be held after an interval of less than 10 years if so requested by a two-thirds majority of States Parties [to the Treaty] [present and voting at the annual session of the Conference of States Parties].]

1/ This proposal was made by one delegation and was not discussed.

NATIONAL IMPLEMENTATION MEASURES

1.1 Each State Party [shall, in accordance with its constitutional processes] [undertakes to] take any measures it considers necessary [including enacting penal legislation,] to prohibit [and prevent] any activity [prohibited to a State Party under this Treaty] [by its nationals] [in violation of the provisions of the Treaty] anywhere [under its jurisdiction or control and any such activity undertaken anywhere by natural persons possessing its nationality, in conformity with international law] [prohibit natural and legal persons anywhere on its territory or in any other place under its jurisdiction as recognized by international law from undertaking any activity prohibited to a State Party under this Treaty, including enacting penal legislation with respect to such activity;]

1.2 [Each State Party shall, in accordance with its constitutional processes, take any necessary measures, including the enactment of penal legislation, to prohibit and prevent any activity in violation of the provisions of the Treaty anywhere under its jurisdiction or control and any such activity undertaken anywhere by natural persons possessing its nationality, in conformity with international law.]

[2. Each State Party shall inform the Organization established pursuant to Article II of this Treaty of the legislative and administrative measures taken to implement the Treaty.]

3.1 [In order to fulfil its obligations under the Treaty, each State Party shall designate or set up a National Authority and shall so inform the Organization upon entry into force of the treaty for such a State Party. The National Authority shall serve as the national focal point for liaison with the Organization and with other States Parties.]

3.2 [Each State Party shall designate or establish a National Authority, which shall have responsibility for the exchanges of information as provided in _____, for ensuring that national implementation measures are adopted and promulgated, for coordinating governmental and private activities necessary to implement the Treaty fully, and to be the point of contact with the Organization and other States Parties.]

4. [Each State Party undertakes to cooperate with the Organization in the exercise of its functions in accordance with this Treaty.]

5. Each State Party shall cooperate with other States Parties and afford the appropriate form of legal assistance to facilitate the implementation of the obligations under paragraph 1.

6. Each State Party shall treat as confidential and afford special handling to information and data that it receives in confidence from the Organization in connection with the implementation of this Treaty. It shall treat such information and data exclusively in connection with its rights and obligations under this Treaty.]

[SECURITY ASSURANCES FOR STATE PARTIES 1/

1. Nuclear-weapon States Parties undertake not to be the first to use nuclear weapons against each other.
2. Nuclear-weapon States Parties undertake not to use or threaten to use nuclear weapons against other States Parties.
3. Each State Party undertakes to provide, through the United Nations Security Council, necessary assistance to any State Party that comes under attack with nuclear weapons, and to impose strict, effective sanctions on the attacking State.]

1/ Several delegations oppose the inclusion in this Treaty of any section on so-called "security assurances", or any other sections that include proposed undertakings relating to the use of nuclear weapons, on the grounds that such matters are totally beyond the scope of this Treaty and the mandate for its negotiation.

INTRODUCTION BY CHAIRMAN OF WORKING GROUP 1

All "elements for a rolling text" result from a "first reading" the purpose of which was to collect text elements and ideas, the latter being included in footnotes and text in italics. General provisions and the first five text elements of the international monitoring system in the Treaty were subject to a "second reading" focusing on the substance. The elements for a rolling text reflect the status of Working Group 1 activities up to 2 September 1994.

Policy for bracketing

All "elements for a rolling text" constitute bracketed language in its entirety. In addition, text elements remained unbracketed if no delegation asked for brackets in the course of the discussions. When delegations asked to bracket certain text elements, these brackets were included. All new text elements provided by delegations were bracketed on the understanding that Working Group 1 did not yet have a chance to develop a judgement on them.

Numerical order

The numbers assigned to text elements follow those of Working Paper 137 and Working Paper 150 in order to allow for cross checking.

[TREATY LANGUAGE ON VERIFICATION

A proposal has been made to entrust the IAEA with verification of compliance with the Treaty (see CD/1232). Should this find approval, all the text on verification would have to be reviewed accordingly.

Working Group 2 has not yet agreed on the organs of the Organization, National Authorities, and their respective tasks (see also WP.57 suggesting an Organization without an Executive Council). Following such an agreement, language in the Treaty and the Protocol would have to be reviewed accordingly.

General Provisions

1.1 In order to ensure verification of compliance with the provisions of this Treaty, a verification regime shall be established consisting of the following elements:

- (a) an International Monitoring System, [based on:
 - Seismological Monitoring;
 - Radionuclide Monitoring;
 - Hydroacoustic Monitoring;
 - Infrasound Monitoring;
 - Satellite Monitoring;
 - Optical Monitoring;
 - EMP Monitoring;
 - (.....),]
- (b) Consultation and Clarification;
- (c) On-site inspections;
- (d) [National or multinational means of verification]; and
- (e) [Associated measures] [Transparency measures] [Confidence building measures].

[The verification regime shall be operative [as soon as possible.] [upon the entry into force of this Treaty.]] The arrangements for this [verification regime] are set forth in the Protocol to this Treaty.

1.1 bis In order to fulfil its obligations under this Treaty, each State Party shall designate or establish a National Authority to serve as the national focal point for effective liaison with the Organization and other States Parties. Each State Party shall notify the Organization of its National Authority at the time that this Treaty enters into force for it.

1.3 [The goal of the [stringent, effective and equitable] verification mechanism to be established shall be to detect in a timely manner [and accurately identify] any nuclear [weapon] test [explosion] prohibited under the Treaty. [The International Monitoring System established should possess the technical capacity required to meet this goal.]]

1.3 bis (5.5) [Verification activities shall be carried out on the basis of full respect for the sovereignty of States Parties, and in the least intrusive manner possible consistent with the effective and timely accomplishment of

their objectives. Each State Party shall refrain from any abuse of the right of verification.]

1.4 [Each State Party shall have the right to make its own interpretation and determination as to the nature of any event having relevance to this Treaty occurring in the course of the implementation of this Treaty and as to the conformity of that event with the provisions of this Treaty.]

2.1 Each State Party undertakes in accordance with the Treaty to cooperate with other States Parties and with the [Technical Secretariat] [Organization] to facilitate the verification of compliance with this Treaty[.][inter alia by:

(a) establishing the necessary facilities to participate in these verification measures and [through its National Authority] establishing the necessary communication channels with the [Technical Secretariat] [Organization];

(b) providing data obtained from national stations which are part of the International Monitoring System;

(c) permitting the conduct of on-site inspections and visits;

(d) providing [notifications, declarations,] and [associated measures;] and

[(e) providing information from additional relevant techniques, as specified in the Protocol to this Treaty or that may be added to this Treaty in accordance with the Protocol to this Treaty;]]

2.3 [All States Parties, irrespective of their technical and financial capabilities, shall enjoy the equal right of verification and assume the equal obligation to accept verification.]

4.1 [States Parties should not be precluded from using additional national or multinational technical means of verification at their disposal, in a manner consistent with generally accepted principles of international law, for the purpose of providing assurance of the compliance with the provisions of this Treaty.]

4.2 [For the purpose of providing assurance of compliance with the provisions of this Treaty, each State Party shall have the right to use national or multinational technical means of verification at its disposal in a manner consistent with generally accepted principles of international law.]

4.3 [No State Party shall interfere with national or multinational technical means of verification operating in accordance with these provisions.]

5.1 In order to ensure the verification of compliance with the provisions of this Treaty, each State Party [as well as the Technical Secretariat] has the right to present to the Executive Council a request for an on-site inspection.

5.2 The accomplishment of the on-site inspections provided for in this Treaty shall be guided by the principle of conducting the inspections in the least intrusive manner possible, consistent with the effective and timely achievement of their objectives. The inspectors shall seek only the information and data necessary for ensuring the verification of compliance with this Treaty.

5.3 Each State Party shall have the right to take measures to protect sensitive installations and to prevent disclosure of confidential information and data not related to this Treaty.

5.4 Moreover, all necessary measures shall be taken to protect the confidentiality of the information related to civilian and military activities and facilities obtained during verification activities.

5.7 No State Party shall interpret the provisions of this Treaty as restricting the international exchange of data for scientific purposes.

7.1-7.3 [Each State Party undertakes to cooperate with other States Parties and with the Organization in the improvement of existing monitoring facilities, and in the examination of the verification potential of additional technologies, with a view to developing, when appropriate, specific measures to enhance the efficient and cost-effective verification of the Treaty. Such measures affecting the International Monitoring System shall, when agreed, be incorporated in existing provisions in the Treaty, the Protocol annexed to the Treaty or as additional Sections of the Protocol, in accordance with Article ... of the Treaty (amendment provision).]

7. bis [The provisions of the Treaty shall be implemented in a manner which avoids hampering the economic and technological development of the States Parties for further development of the application of atomic energy for peaceful purposes. [The States Parties shall undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy.] [The States Parties shall undertake, furthermore, to promote cooperation among themselves to fully facilitate and participate in, the fullest possible exchange of verification technologies, [seismic or non-seismic technologies,] in order to enable all States Parties to strengthen their national technical means towards implementation of a more effective verification of compliance within the Treaty.]]

Consultation and Clarification 1/

8. & 10. States Parties shall consult directly among themselves, or through the Organization or other appropriate international procedures, including procedures within the framework of the United Nations and in accordance with its Charter, on [any matter [which may be raised] relating to the object and

1/ One delegation suggested that this Section be headed "Procedures for Addressing an Ambiguous Event".

purpose, or the implementation of the provisions,) [any matter relating to the verification of compliance with the provisions] [any [suspicious] [ambiguous] events detected by the International Monitoring System that relate to the object and purpose] of this Treaty.

9.1 [Without prejudice to the right of any State Party to request an on-site inspection[later on],]States Parties [should] [shall], [whenever possible] [as a rule], [first] make every effort to clarify and resolve, through exchange of information and consultations among themselves, any [matter which may cause doubt about compliance with this Treaty] [[suspicious] [ambiguous] events detected by the International Monitoring System that relate to the object and purpose of this Treaty] [, or which gives rise to concerns about a related matter which may be considered ambiguous]. [Requests for clarification shall be based solely on the technical evidence obtained through the International Monitoring System.] [A State Party which receives a request from another State Party for clarification of any matter which the requesting State Party believes causes such a doubt shall provide the requesting State Party as soon as possible, but in any case not later than ... days after the request, with information sufficient to answer the doubt raised along with an explanation of how the information provided resolves the matter.]

9.2 [Without prejudice to the right of any State Party to request an on-site inspection], a State Party shall have the right to request the Executive Council to assist in clarifying any [situation relevant to this Treaty which may be considered ambiguous or which gives rise to a concern about the possible non-compliance of another State Party with this Treaty] [[suspicious] [ambiguous] events detected by the International Monitoring System that relate to the object and purpose of this Treaty]. The Executive Council shall provide appropriate information in its possession relevant to such a concern.

12.3 A State Party shall have the right to request the Executive Council to obtain clarification from another State Party on any [situation which may be considered ambiguous or which gives rise to a concern about its possible non-compliance with this Treaty] [[suspicious] [ambiguous] events detected by the International Monitoring System that relate to the object and purpose of this Treaty]. In such a case, the following shall apply:

- (a) The Executive Council shall forward the request for clarification to the State Party concerned through the Director-General not later than ... after its receipt;
- (b) [The requested State Party shall provide the clarification to the Executive Council as soon as possible, but in any case not later than ... after the receipt of the request;]
- (c) The Executive Council shall take note of the clarification and forward it to the requesting State Party not later than ... after its receipt;
- (d) If the requesting State Party deems the clarification to be inadequate, it shall have the right to request the Executive

Council to obtain from the requested State Party further clarification;

12.4 The Executive Council shall inform the States Parties about any request for clarification provided in this Article. 2/

11. [Prior to submitting a request for on-site inspection to the Executive Council, the Technical Secretariat shall conduct a consultation and clarification process with the State Party involved, as provided in paragraphs ... 3/ , in order to clarify any concern of non-compliance.] 4/

12.3(e) If the requesting State Party considers the clarification obtained under subparagraph 12.3(d) to be unsatisfactory, it shall have the right to request a special session of the Executive Council in which States Parties involved that are not members of the Executive Council shall be entitled to take part. In such a special session, the Executive Council shall consider the matter and may recommend any measure it deems appropriate to resolve the situation.

12.5 If the doubt or concern of a State Party about a possible non-compliance has not been resolved within ... after the submission of the request for clarification to the Executive Council, or it believes its doubts warrant urgent consideration, notwithstanding its right to request an on-site inspection, it may request a special session of the Conference in accordance with Article At such a special session, the Conference shall consider the matter and may recommend any measure it deems appropriate to resolve the situation.

International Monitoring System

3. [The International Monitoring System shall be placed under the authority of the Technical Secretariat. It shall include an International Data Centre and an international network assembling stations [satellites] which are part of international networks and others based on national means, which States Parties may put to the disposition of the international community on a voluntary or contractual basis.] [All monitoring stations of the International Monitoring System are owned and operated by States Parties.]

13.1 [Each State Party to the Treaty undertakes to support the International Monitoring System through its [nationally owned and operated] monitoring stations [satellites] and by providing relevant data to the International Data

2/ A delegation suggested that paragraphs 12.3 and 12.4 should be moved to the Protocol.

3/ These are paragraphs 29.2, 30.2, 31, 32.2 & 32.3 in the current text.

4/ A delegation has suggested moving paragraph 11 to the On-Site Inspection Section.

Centre according to procedures contained in the Protocol.] [The International Monitoring System shall comprise [initially] Seismological Monitoring, Radionuclide Monitoring, Hydroacoustic Monitoring, Infrasound Monitoring, Satellite Monitoring, Optical Monitoring, EMP Monitoring, and the international exchange of respective data.]

14. [Each State Party shall have the right to participate in the international exchange of data and to have access to all data made available to the International Data Centre.] [Each State Party shall have a right to transfers of monitoring and data processing techniques possessed by the International Data Centre.] [The International Data Centre shall make available to interested States Parties all techniques it utilizes to compile, process [and analyze] the information it receives from the [verification system] [international monitoring system].]

15. The [Technical Secretariat] [Organization] shall, in cooperation with the States Parties, [coordinate] [set up and operate] the International Monitoring System. This system shall consist [initially] of the monitoring stations, [satellites,] specified in Tables ..., annexed to the Protocol, communication means and [the International Data Centre]. The International Monitoring System shall fulfil the technical and operational [and standardization] requirements specified in [the Protocol.] [and] [the Operational Manuals.]

5.6 [Information obtained by the Organization by means of verification measures established by this Treaty, on-site inspection, notifications, declarations, data exchange, and additional requests for information shall be [provided] [made available] to all States Parties in accordance with the Protocol to this Treaty, unless otherwise agreed. The Organization shall provide for the protection of such information of a proprietary or sensitive nature that is provided to it pursuant to this Treaty.]

16. [A State Party shall cooperate with the Technical Secretariat in establishing and operating monitoring stations and appropriate corresponding means of international communication on its territory, within areas under its jurisdiction or control, or elsewhere in conformity with international law[, in accordance with the procedures in the relevant Operational Manuals]. [The cooperation between the States Parties and the Technical Secretariat shall cover the establishment of new stations and/or upgrades of existing facilities as appropriate.] [For an existing facility, a State Party shall give the Technical Secretariat authority to access the station as specified in the Operational Manuals and the States Parties shall agree to make the necessary changes in the equipment and the operational procedures to meet agreed requirements.] [A State Party shall cooperate with the Technical Secretariat to establish a new monitoring station at a site to be agreed upon.] [The State Party shall also give the Technical Secretariat authority to access the station and shall cooperate with the Secretariat in its routine operation.] The Technical Secretariat shall provide the necessary technical assistance [[as] [if so] requested by a [hosting] State Party] to establish, upgrade, operate and maintain the monitoring stations [satellites]. [The detailed

arrangements for the establishment and the operation of the International Monitoring System are set out in the Protocol to this Treaty.]] 5/

17.1 The Technical Secretariat shall monitor the quality of the networks [satellites] and evaluate their overall performance [in accordance with the procedures set forth in the relevant Operational Manuals] [through routine audit procedures set forth in the Operational Manual and organised in conjunction with the [host] [owning] State Party].

17.2 [The [Executive Council] [Conference of the States Parties] may amend the networks by adding or deleting stations [satellites] [in Tables ... of the Protocol], pursuant to the procedure for changing the Protocol set out in Article ... of the Treaty and Section ... of the Protocol.]

18.1 The [Technical Secretariat] [International Data Centre 6/] shall [routinely]:

(a) receive all data [obtained through the verification regime including] from the International Monitoring System [, as well as other data contributed to the international exchange by States Parties] [and collect additional data];

(b) process [and analyze] [on a preliminary basis] [and shall have the exclusive responsibility of analysing all] [the] [this] data [received from the International Monitoring System],

[including a pre-selection of unusual events as defined in the Protocol]

[and preliminarily identify the nature of the suspicious events which the International Monitoring System has detected, pursuant to the technical criteria for event analysis and identification set out in Section ... of the Protocol]

[with the aim of identifying, according to pre-defined criteria specified in Part ... of the Protocol, significant events indicating a possible non-compliance with the basic obligations of this Treaty. This analysis shall include the identification of events and a final result. The IDC Bulletin shall be prefaced by an analytical summary.]

[Event identification, using any or all of the data which would be reported to the International Data Centre, shall be the exclusive responsibility of the individual States Parties.]

5/ One delegation suggested moving paragraphs 16 through 21 to the Protocol.

6/ One delegation suggested that this paragraph should be part of the General Provisions on verification, and that it should include a sub-paragraph defining the IDC along the following lines: "The International Data Centre is the [focal point] for all data obtained by the verification regime."

- (c) [distribute the results] [make available all data both raw and processed] to all States Parties [and the Executive Council] [within ... days] 7/
- (d) store all data, both raw and processed;
- [(e) [meet States Parties' independent analysis requirements by giving] [provide to] all States Parties timely access to all stored data, including on-line access at the expense of any State Party requesting such access]; and,
- (f) [coordinate] [facilitate] requests for additional data from the International Monitoring System [or other monitoring stations/satellites] [, and make the resulting data available to all States Parties].

[18.2 The procedures to be used by the [Technical Secretariat] [International Data Centre] in discharging these responsibilities shall be elaborated in the relevant Operational Manuals as specified in ...].

20. States Parties may also separately establish cooperative arrangements with the Organization, in order to make available to the International Data Centre supplementary data from national monitoring stations [satellites] which are not formally part of the International Monitoring System. [The conditions under which supplementary data from such facilities (designated "cooperating national facilities") are made available, and under which the International Data Centre might request further or expedited reporting, or clarifications, shall be [agreed upon between the Technical Secretariat and the State Party] [laid down in the Operational Manuals for the respective monitoring network].]

18.4 [However, data obtained through the International Monitoring System shall serve as the sole basis for event identification. Data acquired through other means, including national technical means, shall be used as supplementary evidence to help clarify the nature of suspicious events detected by the International Monitoring System.]

18.5 [The Executive Council shall, on the basis of the results of the preliminary identification made by the International Data System and taking into account all relevant factors, make the determination and judgement on whether the suspicious event is a nuclear weapon test explosion.]

21.1 [To the extent a monitoring station [satellite] provides data to the International Data Centre, the costs of establishing or upgrading the monitoring stations [satellites], the staffing costs, and running costs[, including station security costs] shall be met by the Organization. The Technical Secretariat shall negotiate, on behalf of the Organization, agreements with each State Party [hosting] [owning] monitoring stations [satellites], detailing the arrangements for [meeting upgrade or establishment costs, staffing the stations, and running costs[, including station security costs]]. The agreements between the Organization and the States Parties [hosting] [owning] monitoring stations [satellites] shall be submitted to the

7/ Number of days may differ between different monitoring techniques.

Conference for approval. Subsequent amendments to the agreements shall be subject to prior approval by the Executive Council.]

21.2 [The costs of transmitting the data from a monitoring station or from a National Data Centre directly to the International Data Centre shall be met by the Organization. The Technical Secretariat shall negotiate, on behalf of the Organization, agreements with each State Party, as appropriate, detailing the arrangements for the costs of transmitting the data from a monitoring station or from a National Data Centre directly to the International Data Centre. The agreements between the Organization and the States Parties shall be submitted to the Conference for approval. Subsequent amendments to the agreements shall be subject to prior approval by the Executive Council.]

A delegation suggested considering also costs of stations established prior to the Treaty's entry into force. Furthermore, the establishment and operation of monitoring stations "elsewhere" (see para. 16 first sentence) might require different solutions to operational and financing issues.

On-Site [Inspection] [Activities]

Depending upon the outcome of discussions on "basic obligations", i.e. the issue of inclusion/exclusion of "preparations", this section might have to be reviewed accordingly.

22.1 [An on-site inspection shall be conducted for the sole purpose of clarifying:

- (a) whether an [ambiguous] [suspicious] event detected on the basis of International Monitoring System data [, of data from other elements of the Treaty verification regime, or of other relevant data made available to States Parties in accordance with the provisions of this Treaty], has been a nuclear explosion carried out in violation of the Treaty's basic obligations;
- (b) [other circumstances related to non-compliance with the Treaty's basic obligations in connection with sub-paragraph (a) above;] and,
- (c) [to the extent possible [the facts] [evidence] relating to the identity of any violator;]

[and resolving any questions concerning possible non-compliance with a basic obligation of this Treaty.]]

22.2 [Each State Party that has a concern about non-compliance with a basic obligation of this Treaty [by any other State Party] has the right to:

- (a) request [the Organization to conduct] an on-site inspection [, for the purposes set out in paragraph 22.1,] in the territory or in any other place under the jurisdiction or control of any other State Party, or in an area beyond the jurisdiction [or control] of any state, [of any site

suspected, with adequate evidence, to have been the location of a clandestine nuclear weapon test explosion]; and,

[(b) [if approved by the Executive Council,] have this inspection conducted [anywhere without delay] [within the agreed time-frame] [anywhere beginning no later than ... hours after the request is submitted to the Director-General] by an inspection team designated by the Director-General and in accordance with the procedures in the Protocol to this Treaty.]]

22.3 [Requests for on-site inspection shall be submitted to the Executive Council by the Technical Secretariat, on the basis of the information gathered by the International Monitoring System or as a result of a request by a State Party and after conducting an expert evaluation of all information available, with the participation of the suspected State Party, as provided in paragraphs]

23.1 Each State Party is under the obligation to keep the on-site inspection request within the scope of this Treaty and to provide in the inspection request all appropriate information on the basis of which a concern has arisen regarding possible non-compliance with this Treaty. Each State Party shall refrain from unfounded inspection requests, care being taken to avoid abuse. [The On-Site Inspection shall be carried out for the sole purpose of determining facts relating to the possible non-compliance.]

23.2 Each State Party shall [accept] [permit the Technical Secretariat to conduct] [upon approval by the Executive Council] any on-site inspection on its territory or at places under its jurisdiction or control for the purpose of [verification of compliance with the provisions of this Treaty], in accordance with paragraph ... of this Section.

25. Pursuant to a request for an On-Site Inspection, and in accordance with the procedures provided for in the Protocol to this Treaty, the inspected State Party shall have:

(a) The right and the obligation to make every reasonable effort to demonstrate its compliance with this Treaty and, to this end, to enable the inspection team to fulfil its mandate;

(b) The obligation to provide access within the requested site for the [sole] purpose of determining facts relevant to the concern regarding possible non-compliance; and

(c) The right to take measures to protect sensitive installations and locations, and to prevent disclosure of confidential information not related to this Treaty.

26. [The States Parties shall subject the declared nuclear test sites, their closure, and the destruction of specifically designed equipment for testing, to systematic verification through On-Site Inspection and monitoring with on-site instruments.]

27. This might be an appropriate place to insert language on "inspection on invitation"/"visits on invitation". Another option would be to have such "inspections"/"visits" under Transparency Measures or Consultation and Clarification. Some delegations suggested that nothing should preclude States Parties to offer such "inspections"/"visits" on a voluntary basis.

Request of an On-Site Inspection

It could be considered whether procedures for the request of an On-Site Inspection should differentiate between requests referring to a territory under the jurisdiction and control of a State Party and requests referring to a territory beyond the jurisdiction of any State Party. Furthermore, this could be the appropriate place where "before the event" requests of an On-Site Inspection could be introduced, if so agreed.

28.1 [The requesting State Party shall present an inspection request for an On-Site Inspection to the Executive Council and at the same time to the Director-General for immediate processing. [The request for an on-site inspection shall contain a precise description of the grounds on which the requesting State Party considers a violation of the Treaty has taken place, as well as the evidence collected on the basis of the data provided by the International Data Centre, or from its national technical means.]]

28.2 [Any State Party may make a request for conducting a challenge on-site inspection. Such a request shall be accompanied with supporting evidence and shall be submitted in written form to the Director-General and the Executive Council. Any evidence to that effect should have been acquired through the International Monitoring System of this Treaty.]

28.3 [The requesting State Party shall submit the request to the Technical Secretariat together with detailed technical data and reliable evidence supporting its concern.]

29.1 [The Director-General shall immediately ascertain that the inspection request meets the requirements specified in Section ... of the Protocol annexed to this Treaty, and, if necessary, assist the requesting State Party in filing the inspection request accordingly. [When the inspection request fulfils the requirements, preparations for the inspection shall begin.]]

29.2 [Upon identification by the Technical Secretariat of a significant suspected event, or upon receipt of a request from a State Party for On-Site Inspection, the Technical Secretariat shall promptly approach the suspected State Party with all the reliable evidence and information available and request the suspected State Party to clarify the issue.]

30.1 [The Director-General shall notify the inspected State Party not less than [12] [24] hours before the planned arrival of the inspection team at the point of entry.]

30.2 [A State Party which receives a request from the Technical Secretariat for clarification of any concern about non-compliance with a basic obligation of this Treaty, shall provide the Technical Secretariat with explanations and with any other relevant information as soon as possible and not later than 5 days after receiving the request.]

31. [The Technical Secretariat shall evaluate all reliable evidence and data available, with the aim of clarifying and resolving the concern. The Technical Secretariat shall invite experts from the suspected State Party, and from the requesting State Party as applicable, to participate in the evaluation. The Technical Secretariat shall complete the evaluation not later than 10 days after submitting the request for clarification to the suspected State Party. The reliable evidence and data to be evaluated will include, inter alia, those from the International Data System, those provided by the suspected State Party and by the requesting State Party as applicable, as well as additional reliable data relevant to the specific suspected event, as available within the above time frame.]

32.1 [The Executive Council shall take cognizance of the Director-General's actions and shall keep the case under its consideration throughout the inspection procedure. [However, its deliberations shall not delay the inspection process.]]

32.2 [Concurrently with the stages referred to in paragraphs 30 and 31 above, the Technical Secretariat shall commence preparations for an On-Site Inspection, including inter alia the assembling of the inspection team and of the inspection equipment as provided for in Part ... of the Protocol.]

32.3 [In such cases where the concern about non-compliance with a basic obligation of this Treaty, raised by the Technical Secretariat or by a State Party, has not been resolved by the above clarification process, or if the requesting State Party so requires, the Technical Secretariat shall promptly bring the issue before the Executive Council. The Technical Secretariat shall submit to the Executive Council a report including its evaluation and recommendations as well as all the reliable evidence and explanations. This report shall serve as the basis for the Executive Council consideration of the request for On-Site Inspection.]

33.1 [The Executive Council may, not later than 12 hours after having received the inspection request, decide by a three-quarters majority of all its members against carrying out the inspection, if it considers the inspection request to be frivolous, abusive, or clearly beyond the scope of this Treaty, as described in paragraph Neither the requesting nor the inspected State Party shall participate in such a decision. If the Executive Council decides against the inspection, preparations shall be stopped, no further action on the inspection request shall be taken, and the States Parties concerned shall be informed accordingly.]

33.2 [The Executive Council shall consider the request. To approve an On-Site Inspection a two-thirds majority of all members of the Executive Council will be required. If the Executive Council finds a request by a State Party to be

frivolous or abusive, it shall take the appropriate measures in accordance with Article If the Executive Council does not approve the inspection, preparations shall be stopped, no further action on the inspection request shall be taken, and all States Parties will be informed accordingly.]

33.3 [Before a challenge on-site inspection is conducted, the Executive Council shall review the request, and the decision of approval shall be made by a two-thirds majority of all the members of the Executive Council present and voting.]

33.4 [In the review process, the Executive Council, assisted by the Technical Secretariat, shall use uniform scientific criteria and standards to examine the data and information submitted by the requesting State Party as supporting evidence. Such scientific criteria and standards shall be specified in the relevant parts of the Verification Protocol.]

The Conduct of an On-Site Inspection

It could be considered whether basic provisions on the conduct of On-Site Inspections, such as principles, phasing, use of aircraft, and duration should be dealt with in this section.

34.1 The Director-General shall issue an inspection mandate for the conduct of the On-Site Inspection. The inspection mandate shall be the inspection request put into operational terms, and shall conform with the inspection request.

34.2 [In accordance with the provisions of this Treaty and with the procedures provided for in Part ... of the Protocol, the inspected State Party shall have:

- the right and the obligation to make every reasonable effort to demonstrate its compliance with this Treaty and, to this end, to enable the inspection team to fulfil its mandate;
- the obligation to provide access within the requested area for the sole purpose of establishing facts relevant to the concern regarding possible non-compliance; and
- the right to take measures to protect sensitive installations and proprietary rights, and to prevent disclosure of confidential information and data not related to this Treaty.]

35. The On-Site Inspection shall be conducted in accordance with the procedures laid down in the Protocol [and the Operational Manual for On-Site Inspections]. The inspection team shall be guided by the principle of conducting the On-Site Inspection in the least intrusive manner possible, consistent with the effective and timely accomplishment of its mission.

36. The inspected State Party shall assist the inspection team throughout the inspection and facilitate its task. [If the inspected State Party proposes, pursuant to para. ... of the Protocol, arrangements to demonstrate compliance

with this Treaty, alternative to full and comprehensive access, it shall make every reasonable effort, through consultations with the inspection team, to reach agreement on the modalities for establishing the facts with the aim of demonstrating compliance.]

37.1 [In accordance with the access regime provided for in Part ... of the Protocol, the inspected State Party shall have the right:

- to exclude inhabited locations and facilities at the initial stage of the inspection;
- to exempt sensitive facilities from access on the basis of national security, proprietary rights and health and safety reasons. If the inspected State Party elects to exercise this right, it shall be given the opportunity to address the concern through other means.]

37.2 [The size of the area of a challenge on-site inspection shall be limited to not exceeding 100 square kilometres.]

37.3 [An aerial inspection may be carried out only with the permission of the inspected State Party, which shall have the right to deny access to such an inspection or to restrict its route or range.]

Observers

38. With regard to an observer, the following shall apply:

(a) The requesting State Party may, [subject to the agreement of the inspected State Party], send a representative who may be a national either of the requesting State Party or of a third State Party, to observe the conduct of the On-Site Inspection.

(b) The inspected State Party shall then grant access to the observer in accordance with the Protocol, annexed to this Treaty.

(c) [The inspected State Party shall, as a rule, accept the proposed observer, but if the inspected State Party exercises a refusal, that fact shall be recorded in the final report.]

Final Report of an On-Site Inspection

39.1 The final report shall contain the factual findings as well as an assessment by the inspection team of the degree and nature of access and cooperation granted for the satisfactory implementation of the On-Site Inspection. [The Director-General shall promptly transmit the final report of the inspection team to the requesting State Party, to the inspected State Party, to the Executive Council and to all other States Parties. The Director-General shall further transmit promptly to the Executive Council the assessments of the requesting and of the inspected States Parties, as well as the views of other States Parties which may be conveyed to the

Director-General for that purpose, and then provide them to all States Parties.]

39.2 [Upon receiving the inspection report, the Technical Secretariat shall:

- evaluate the findings together with the previous information and assess its findings. The Technical Secretariat shall invite experts from the inspected State Party and from the requesting State Party as applicable, to participate in the assessment;
- submit the inspection report together with its assessment to the Executive Council, to the inspected State Party, to the requesting State Party as applicable, and to all other States Parties.]

40.1 [The Executive Council shall, in accordance with its powers and functions, review the final report of the inspection team as soon as it is presented, and [address any concerns as to:] [decide, inter alia:]

- (a) Whether any non-compliance has occurred;
- (b) Whether the request had been within the scope of the Treaty; and
- (c) Whether the right to request On-Site Inspection had been abused.]

40.2 [The Executive Council, in accordance with its powers and functions, shall review the inspection report and its assessment. The inspected State Party and the requesting State Party as applicable, shall have the right to participate in the review process and to present to the Executive Council their own assessments.]

41.1 [If the Executive Council reaches the conclusion, in keeping with its powers and functions, that further action may be necessary with regard to paragraph ..., it shall take the appropriate measures to redress the situation and to ensure compliance with this Treaty, including specific recommendations to the Conference of the States Parties. In the case of abuse, the Executive Council shall examine whether the requesting State Party should bear any of the financial implications of the inspection.]

41.2 [If the Executive Council reaches a conclusion that non-compliance of a basic obligation of this Treaty has occurred, it shall refer the matter to the United Nations Security Council, in accordance with Article ...]

Some delegations suggested that in cases of abuse the requesting State Party might bear the costs for the inspection, and even if the inspection is not carried out, for any costs incurred for the preparation of the inspection. Furthermore, if clear evidence is found, the inspected State Party should have to bear the cost. A delegation has suggested, in case of abuse, punitive measures such as revoking rights of States Parties.

23.3 [Each State Party undertakes to apply sanctions, by individual action or collective action, against any abuse of the right of challenge on-site inspection, and all States Parties and the Treaty Organization shall ensure

that challenge on-site inspections are conducted in the least intrusive manner possible. To this end, "managed access" or other alternative measures shall be permitted.]

42. [The requesting State Party and the inspected State Party shall have the right to participate in the review process. The Executive Council shall inform the States Parties and the next session of the Conference of the States Parties of the outcome of the process.]

43. [If the Executive Council has made specific recommendations to the Conference of the States Parties, the Conference of the States Parties shall consider action in accordance with Article ("Measures to Redress a Situation and ...").]

[Transparency Measures]

[Confidence-building Measures]

[Associated Measures]

Dependent upon the outcome of discussions on different transparency measures, as they are listed in the Protocol, appropriate treaty language would have to be inserted here. For possible treaty language in some areas see CD/1232, Protocol, Section IV, Part 2. Some delegations have suggested that "Inspections on invitation"/"Visits on invitation" could also be dealt with here.

PROTOCOL

TO THE COMPREHENSIVE TEST BAN TREATY

SECTION: THE INTERNATIONAL MONITORING SYSTEM

Should a section on the IMS be developed in the Treaty, as suggested in this Draft, the present section on the IMS in the Protocol would have to be cleared of redundancies. Instead, it might be advisable to insert in the Protocol those characteristics and criteria of different parts of the IMS which, for the foreseeable future, should not change.

If so agreed, this section should address the manner to identify and to ensure the possible synergies of different monitoring technologies. Further technical work on this issue might have an impact on the design of the overall International Monitoring System.

Security problems and the authentication of data in the International Exchange of Data should be addressed. Further technical consideration should be given and result in additional language.

Four papers from Groups of Experts providing options for the International Monitoring System were presented by Friends of the Chair:

"Options for the design of a CTBT radioactivity monitoring network, with their most important capabilities and costs: Report of the group of experts on radioactivity to Working Group 1" (CD/NTB/WP.171);

"Options for the design of a CTBT hydroacoustic monitoring network with their most important capabilities and costs: Report of the group of experts on hydroacoustics to Working Group 1" (CD/NTB/WP.172);

"Infrasound monitoring system" (CD/NTB/WP.176);

"Seismic monitoring system" (CD/NTB/WP.177).

Part 1: Seismological Monitoring

Attention has been drawn to coastal seismic stations suited for the detection of certain underwater events (WP.84). This issue might require further study when developing the seismological monitoring network.

[1. Each State Party to the Treaty undertakes to cooperate in an international exchange of seismological data to assist in the verification of [compliance with] the Treaty. This cooperation [shall] include[s] the establishment and operation of a [two-tiered] network of [high quality] seismological stations [and arrays]. [The first tier, referred to as a network of Alpha stations, shall be coordinated by the Technical Secretariat and shall provide uninterrupted data transmitted on-line to the International Data Centre. The second tier, referred to as a network of Beta stations,

shall be established and operated by the States Parties and shall provide on-line data upon request by the International Data Centre.] [These stations shall be coordinated by the Technical Secretariat and provide data in accordance with agreed procedures to the International Data Centre.]

2.1 The Technical Secretariat shall monitor the quality of the [networks of Alpha and Beta] [Seismological] stations and evaluate their overall performance [through routine audit procedures organized in conjunction with the host State Party. [The Executive Council may amend the networks by adding or deleting stations in Tables ... of the Protocol, pursuant to the procedure for changing the Protocol set out in Article ... of the Treaty and Section ... of the Protocol].]

[2.2 Each State party shall have the right to participate in the international exchange of seismological data and to have access to all the seismological data made available to the International Data Centre. Each State Party shall cooperate with the International Data Centre through its national authority.]

3. The Technical Secretariat shall, in cooperation with the States Parties, coordinate the network of [Alpha] stations. This network shall consist [initially] of the stations specified in Table ..., annexed to this Protocol. These stations shall fulfil the technical and operational requirements specified in the Operational Manual for Seismological Monitoring and the International Exchange of Seismological Data. [Uninterrupted data from the Alpha stations shall be transmitted on-line to the International Data Centre.]

4. A State Party shall cooperate with the Technical Secretariat in establishing and operating [Alpha] [one or more seismological] stations on its territory [, within areas under its jurisdiction or control, or elsewhere in conformity with international law, in accordance with the procedures in the Operational Manual on seismological monitoring and the international exchange of seismological data. This cooperation shall cover the establishment of new stations and/or upgrades of existing facilities as appropriate]. [For an existing facility, a State Party shall give the Technical Secretariat authority to access the station as an Alpha station as specified in the Operational Manual for Seismological Monitoring and the International Exchange of Seismological Data and agree to make the necessary changes in the equipment and the operational procedures to meet these requirements. A State Party shall cooperate with the Technical Secretariat to establish a new station at a site to be agreed upon. The State Party shall also give the Technical Secretariat authority to access the station and cooperate with the Secretariat in its routine operation. The Technical Secretariat shall provide the necessary technical assistance to establish, operate and maintain the station(s).]

[5. To supplement the Alpha network, a number of additional high quality stations and arrays referred to as Beta stations shall provide information to the International Data Centre on request. The Beta stations to be used [initially] are listed in Table 1B, annexed to this Protocol. The Beta stations shall be established and operated by the State Party on whose

territory they are situated. The Technical Secretariat shall, if requested, provide technical assistance to a State Party in this regard. [The Technical Secretariat shall also, subject to the prior approval of the Executive Council, provide technical assistance to establish, operate and maintain such stations in regions of the world where there is a lack of such stations.] The Beta stations shall meet the technical and operational requirements specified in the Operational Manual for Seismological Monitoring and the International Exchange of Seismological Data. Data from the Beta stations may at any time be requested by the International Data Centre and shall be immediately available through on-line computer connections.]

6. The International Data Centre shall [routinely] receive all [seismological] data [from seismological stations in accordance with agreed procedures] [contributed to the international exchange by its participants], process [and analyze the data received from Alpha and Beta stations] [with the aim of detecting, identifying and locating significant events indicating a possible underground or underwater nuclear explosion] and distribute [the results to all States Parties] [these data to all participants] within [two] [...] days, and store all data [contributed by participants] as well as the results of the processing at the Centre. [A State Party shall be entitled to have access to the data at the International Data Centre and, at its own expense, also arrange for on-line access to the data.] The procedures to be used at the Centre shall be [those] laid down in the Operational Manual for Seismological Monitoring and the International Exchange of Seismological Data. [The Centre shall further coordinate requests for additional seismological data from one State Party to another Party and make such data available to all States Parties.]

[7. Each State Party is encouraged to assist in the assessment of the nature of the seismic events located by the International Data Centre by contributing any additional information available about events located in its own territory and to provide data recorded by seismic stations in national and regional networks when requested to do so by the International Data Centre.]

[Table 1 Seismic Stations Incorporated into the CTBT
International Monitoring System 1/

State	Location	Latitude	Longitude	Type)
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1/ A delegation suggested that there might be a need to produce a consolidated map of stations.

**Table 1-A List of [High Quality] Seismological Stations and Arrays
Comprising the CTBT Alpha Network**

It has to be ensured that the seismic network as listed below will be part of the IMS at the time of entry into force. This might require special provisions in case a country mentioned in the list would not yet have ratified the Treaty.

State	Location	Lat	Long	Type	Commit
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**Table 1-B List of [High Quality] Seismological Stations and Arrays
Comprising the CTBT Beta Network**

State	Location	Lat	Long	Type	Commit]
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Part 2: Radionuclide Monitoring 2/

It is understood that the following description of the radionuclide monitoring system has to be reviewed in view of results of further technical work. Should existing international organizations, such as the World Meteorological Organization, have to play a role in the monitoring system, this might also have to be mentioned below. A proposal has been made to include mobile samplers in the monitoring system; should this be approved, specific language might be required. Furthermore, depending on future decisions, characteristics and technical parameters might have to be mentioned, such as the system should cover particulates and noble gases. A proposal has been made to use certified laboratories outside of the International Data Centre.

[1. Each State Party [to the Treaty] undertakes to cooperate in an international exchange of [radionuclide] data [on radionuclides in the atmosphere] [to assist in the verification of [compliance with] the Treaty] [which are relevant to the detection and identification of nuclear explosions, referred to in the rest of this Part as "radionuclides in the atmosphere"]. This cooperation shall include the establishment and operation of a network of

2/ Due to the technical nature of the deliberations on formulating the final provisions on non-seismic verification technologies, a delegation suggested to continue the detailed technical discussions in the Preparatory Commission.

[high quality] [radionuclide] stations [to measure radionuclides in the atmosphere]. The stations shall be coordinated by the Technical Secretariat and provide data [promptly to the International Data Centre] [in accordance with agreed procedures to the International Data Centre].

2. Each State Party shall have the right to participate in the international exchange of [radionuclide] data [on radionuclides in the atmosphere] and to have access to all [radionuclide] data [on radionuclides in the atmosphere] made available to the International Data Centre. Each State Party shall cooperate with the International Data Centre through its National Authority.

3. The Technical Secretariat shall, in cooperation with the States Parties, coordinate a specified network of [high quality] [radionuclide] stations [to measure radionuclides in the atmosphere]. This network shall consist [initially] of the stations specified in Table 2, annexed to this Protocol. These stations shall fulfil the technical and operational requirements specified in the Operational Manual for [Surveillance of and International Exchange of Data on Radionuclides in the Atmosphere] [radionuclide monitoring and the international exchange of radionuclide data].

4. The Technical Secretariat shall monitor the quality of the [network of] [radionuclide] stations [to measure radionuclides in the atmosphere] and evaluate [its] [their] overall performance. [The Technical Secretariat shall, subject to the prior approval of the Executive Council, provide technical assistance to establish, operate and maintain new radionuclide stations in regions of the world where there is a lack of such stations.]

[5.1 A State Party shall cooperate with the Technical Secretariat in establishing and operating one or several stations on its territory to measure radioactivity in the atmosphere [on terms to be agreed with the Technical Secretariat]. For an existing facility a State Party shall give the Technical Secretariat authority to access the station as a station to measure radionuclides in the atmosphere as specified in the Operational Manual for Surveillance of and International Exchange of Data on Radionuclides in the Atmosphere and agree to make necessary changes in the equipment and the operational procedures to meet these requirements. A State Party shall cooperate with the Technical Secretariat to establish a new station at a site to be agreed upon. The State Party shall also give the Technical Secretariat authority to access the station and cooperate with the Secretariat in its routine operation.]

[5.2 A State Party shall cooperate with the Technical Secretariat in establishing and operating one or more radionuclide stations on its territory, within areas under its jurisdiction or control, or elsewhere in conformity with international law, in accordance with procedures in the Operational Manual on radionuclide monitoring and the international exchange of radionuclide data. This cooperation shall cover the establishment of new stations and/or upgrades of existing facilities as appropriate.]

[6.1 In addition to routinely submitted measurements, each State Party may provide any other relevant measurement on radionuclides in the atmosphere through its National Data Centre. Each State Party may also request additional data from a third party through the Technical Secretariat. The procedures for making such requests shall be those laid down in the Operational Manual for Surveillance of and International Exchange of Data on Radionuclides in the Atmosphere.]

[6.2 The International Data Centre shall receive data from radionuclide stations in accordance with agreed procedures, process and distribute this data to all participants within ... days, store all data contributed by participants as well as the results of the processing at the Centre. The procedures to be used at the Centre shall be laid down in the Operational Manual for radionuclide monitoring and the international exchange of radionuclide data.]

[7. The International Data Centre shall receive all measurements on radionuclides in the atmosphere contributed to the international exchange by its participants and routinely process [and analyze] these measurements according to established procedures [with the aim of detecting, identifying and locating significant events indicating a possible nuclear explosion in the atmosphere, underground or underwater]. States Parties hosting station(s) in the radionuclide network will provide measurements on a ... basis and will also provide measurements on request from the International Data Centre. [The Centre shall, at the request by a State Party, evaluate an observed release of radionuclides in the atmosphere as well as the time and location of the source.] [The Centre shall, at the request by a State Party, assist in the determination of the origin, time and location of the source of a release of radionuclides in the atmosphere.] [In this analysis, relevant wind trajectories obtained from meteorological data shall be used.] The results [of the analysis] shall be distributed to all States Parties within ... , and the records thereof be kept at the Centre. The procedures to be used in the analysis at the Centre shall be those laid down in the Operational Manual for Surveillance of and International Exchange of Data on Radionuclides in the Atmosphere. The Centre shall also coordinate requests for additional measurements from one State Party to another and circulate the information obtained as a result of such requests.]

Table 2 Radionuclide Stations Incorporated into the CTBT International Monitoring System

State	Location	Latitude	Longitude	Type (Noble gas or Particulate or both)
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[Table 2 List of [High Quality] Stations to Measure Radionuclides
in the Atmosphere

It has to be ensured that the radionuclide network as listed below will be part of the IMS at the time of entry into force. This might require special provisions in case a country mentioned in the list would not yet have ratified the Treaty.

2A List of Stations Monitoring Particulates

State Station

2B List of Stations Monitoring Noble Gases

State Station]

Part 3: Hydroacoustic Monitoring

It is understood that the following description of the hydroacoustic monitoring system has to be reviewed taking into account results of further technical work. Furthermore, characteristics and technical parameters would have to be added.

Attention has been drawn to coastal seismic stations for monitoring underwater nuclear explosions, supplemented by a few moored type hydroacoustic stations. This might have to be considered in the context of developing the hydroacoustic monitoring network.

[1. Each State Party to the Treaty undertakes to cooperate in an international exchange of hydroacoustic data[to assist in the verification of [compliance with] the Treaty] [which is relevant to the detection and identification of underwater nuclear explosions, referred to in the rest of this Part as "hydroacoustic data"]. [This cooperation shall include the

establishment and operation of a network of [high quality] hydroacoustic stations. These stations shall be coordinated by the Technical Secretariat and provide data [promptly] [in accordance with agreed procedures] to the International Data Centre.] [This cooperation shall include the establishment and operation of a network of hydroacoustic stations operating with agreed specifications. These stations shall be coordinated by the Technical Secretariat and provide data to the International Data Centre in accordance with agreed procedures.]

2. Each State Party shall have the right to participate in the international exchange of hydroacoustic data and to have access to all the hydroacoustic data made available to the International Data Centre. Each State Party shall cooperate with the International Data Centre through its National Authority.

3. The Technical Secretariat shall, in cooperation with the States Parties, coordinate a specified network of [high quality] hydroacoustic stations. This network shall consist [initially] of the stations specified in Table 3, annexed to this Protocol. These stations shall fulfil the technical and operational requirements specified in the Operational Manual for Hydroacoustic Monitoring and the International Exchange of Hydroacoustic Data. [Data from the stations shall be transmitted promptly to the International Data Centre.]

4. The Technical Secretariat shall monitor the quality of the hydroacoustic stations and evaluate their overall performance.

5. A State Party shall cooperate with the Technical Secretariat in establishing and operating one or [several] [more] hydroacoustic stations on its territory, within areas under its jurisdiction or control, or elsewhere in conformity with international law [on terms to be agreed with the Technical Secretariat] [, in accordance with the procedures in the Operational Manual for hydroacoustic monitoring and the international exchange of hydroacoustic data. This cooperation shall cover the establishment of new stations and/or upgrades of existing facilities as appropriate]. [For an existing facility a State Party shall give the Technical Secretariat authority to access the station as specified in the Operational Manual for Hydroacoustic Monitoring and the International Exchange of Hydroacoustic Data and agree to make necessary changes in the equipment and the operational procedures to meet these requirements. [A State Party shall cooperate with the Technical Secretariat to establish a new station at a site or position to be agreed upon.]]

6. The International Data Centre shall [routinely] receive data from hydroacoustic stations [in accordance with agreed procedures], process and distribute these data to all participants within ... days, store all data contributed by participants as well as the results of the processing at the Centre. The procedures to be used at the Centre shall be those laid down in the Operational Manual for Hydroacoustic Monitoring and the International Exchange of Hydroacoustic Data.

[Table 3 Hydroacoustic Stations Incorporated into the CTBT International Monitoring System

State	Location	Latitude	Longitude	Type]
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Part 4: Infrasound Monitoring

It is understood that the following description of the infrasound monitoring system has to be reviewed taking into account results of further technical work. Furthermore, characteristics and technical parameters would have to be added.

- [1. Each State Party to the Treaty undertakes to cooperate in an international exchange of infrasound data to assist in the verification of compliance with the Treaty. This cooperation shall include the establishment and operation of a network of infrasound stations. These stations shall be coordinated by the Technical Secretariat and provide data in accordance with agreed procedures to the International Data Centre.
2. Each State Party shall have the right to participate in the international exchange of infrasound data and to have access to all the infrasound data made available to the International Data Centre. Each State Party shall cooperate with the International Data Centre through its National Authority.
3. The Technical Secretariat shall, in cooperation with the States Parties, coordinate a specified network of infrasound stations. This network shall consist of the stations specified in Table 4, annexed to this Protocol. These stations shall fulfil the technical and operational requirements specified in the Operational Manual for Infrasound Monitoring and the International Exchange of Infrasound Data.
4. The Technical Secretariat shall monitor the quality of the infrasound stations and evaluate their overall performance.
5. A State Party shall cooperate with the Technical Secretariat in establishing and operating one or more infrasound stations on its territory, within areas under its jurisdiction or control, or elsewhere in conformity with international law, in accordance with the procedures in the Operational Manual for Infrasound Monitoring and the international exchange of infrasound data. This cooperation shall cover the establishment of new stations and/or upgrades of existing facilities as appropriate.
6. The International Data Centre shall receive data from infrasound stations in accordance with agreed procedures, process and distribute these

data to all participants within ... days, store all data contributed by participants as well as the results of the processing at the Centre. The procedures to be used at the Centre shall be those laid down in the Operational Manual for Infrasound Monitoring and the International Exchange of Infrasound Data.

Table 4 Infrasound Stations Incorporated into the CTBT International Monitoring System

State	Location	Latitude	Longitude	Type]
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Part 5: Satellite Monitoring

A proposal has been made to establish a global satellite monitoring system. According to another proposal it could incorporate optical and radio-wave recording sensors; three spatially separated ionizing-radiation recalling sensors; a data pre-processing unit; a processing and control processor, and data transmission apparatus. Should such proposals be adopted, appropriate language would have to be developed.

Part 6: Optical Monitoring

A proposal has been made to establish a ground-based optical monitoring system capable of detecting atmospheric and space nuclear explosions. Should this proposal be adopted, appropriate language would have to be developed, taking into account further technical work.

Part 7: EMP Monitoring

A proposal has been made to establish a ground-based electromagnetic pulse monitoring system. It should be designed for recording and real-time processing of EMP signals from nuclear explosions in the atmosphere and near space. Should this proposal be adopted, appropriate language would have to be developed, taking into account further technical work.

Part 7A: Criteria for Identification of Significant Events

Pursuant to Paragraph 18a [WP.146] criteria for the identification of significant events from the IMS monitored data should be formulated here. They should cover the detection, identification and location of events which indicate a possible nuclear explosion with a sufficiently high degree of confidence. These should be composite criteria, allowing for synergy between the IMS networks (c.f. WP.117).

The criteria should define the smallest area of uncertainty for the location of an explosion, consistent with the precision of the monitoring networks which are relevant to the specific event and specific site, taking into account the technical characteristics of the networks.

Any other technical information which may further reduce uncertainties of detection, identification and location should be clearly defined.

The criteria should be developed by a group of experts.

Part 8: Use of Satellite Data and Other Methods

Part 8 needs further technical consideration. This part could cover all those monitoring techniques which would not become part of the International Monitoring System.

As a reminder:

Overhead imagery capabilities for CTBT verification purposes could be achieved from the dual-use (military/civilian) characteristics of existing space-based and airborne systems.

[1. Each State Party undertakes to make satellite image data available on terms to be agreed with the Technical Secretariat. The Technical Secretariat shall, upon request, assist States Parties in the processing of satellite image data to facilitate the interpretation of events relevant to this Treaty. The procedures to be used by the Technical Secretariat shall be those laid down in the Operational Manual for Satellite Data Processing.

2. The Technical Secretariat shall facilitate cooperation among States Parties in using additional means of verification which any State Party may find useful. The Technical Secretariat shall receive, compile and circulate any data relevant to the verification of this Treaty which any State Party makes available.

3. The Technical Secretariat shall, in consultation with [the States Parties and] the Scientific Advisory Board[and subject to approval by the Conference], provide technical assistance to establish, operate and maintain any additional means of verification.

4. Additional means of verification of compliance with this Treaty may include acoustic and ionospheric measurements in the atmosphere.]

Part 9: Procedures for International Monitoring

It should be considered whether language would be needed for procedures covering the relationship between the Technical Secretariat and e.g. nationally owned and operated monitoring stations, national authorities, national data centres, certified laboratories.

The Protocol

SECTION: ON-SITE INSPECTION

[Part 1: General Rights and Obligations]

[General Rules]

[1. The [rules and] procedures in this Part shall be implemented pursuant to the provisions for on-site [international] inspection set out in Article ... of this Treaty. [The [rules and detailed procedures] [definitions and detailed arrangements] for On-Site Inspections shall be set out in the Manual for [International] On-Site Inspections.]

2.1 The sole purpose of an [international] On-Site Inspection pursuant to this Part shall be to clarify and resolve, in accordance with Article ... of the Treaty, any [questions concerning possible non-compliance with [the basic obligation of] the Treaty] [suspicious events detected by an international monitoring system].

[2.2 The sole purpose of an On-Site Inspection shall consist in determining whether or not an ambiguous event detected on the basis of IMS data or NTM data has been a nuclear explosion carried out in violation of the basic obligations under the Treaty and, if it is determined that such a violation has taken place, in identifying to the extent possible the State Party which has violated the Treaty as well as in ascertaining other circumstances related to the non-compliance with the Treaty basic obligations.]

[2.3 Technical preparation for conducting an on-site inspection and facilitating the activities of an inspection team shall be carried out by the [Technical Secretariat] [Organization] under the direction of the Director-General. The Director-General shall assume responsibility for the activities of an inspection team, its security and the protection of classified information. The [Technical Secretariat] [Organization] shall prepare for consideration and approval by the Conference an Operational Manual for International On-Site Inspections and standard reporting forms on the outcome of on-site inspections.]

[2.4 All requests and notifications by States Parties to the Organization shall be transmitted through their National Authorities to the Director-General. Requests and notifications shall be in one of the official languages of this Treaty. In his responses the Director-General shall use the language of a request or notification transmitted to him.]

[2.5 Not later than 30 days after the entry into force of this Treaty the Director-General circulates to all States Parties standard request and notification forms containing items necessary for this section of the Protocol. Requests and notifications, which deviate from the standard form, shall not be considered. In that case the Director-General shall promptly inform the requesting or notifying State Party that its request or notification is not consistent with the standard form and shall indicate the specific inconsistency.]]

[Part 2: Standing Arrangements]
[Designation of Inspectors]

3.1 [An [international] On-Site Inspection shall be carried out by personnel and experts of the [Technical Secretariat] [Organization] designated as inspectors, assisted by other experts [also designated as inspectors] [who can be mobilized very rapidly], on a list to be maintained by the [Technical Secretariat] [Organization].]

[3.2 An On-Site Inspection shall only be performed by qualified inspectors and inspection assistants especially designated for this function by the Director-General. Inspectors shall be experts from the [Technical Secretariat] [Organization] personnel and from States Parties and shall be designated on the basis of their expertise and experience in the relevant fields of On-Site Inspection. The professional duties of the On-Site Inspection shall be performed only by inspectors. Inspection assistants shall be designated from the [Technical Secretariat] [Organization] personnel for the non-professional duties of the On-Site Inspection. The inspectors and inspection assistants shall be certified by the [Technical Secretariat] [Organization] and shall be approved in advance by the States Parties, as provided in paragraphs 5-8. The [Technical Secretariat] [Organization] shall maintain and update a list of certified and approved inspectors and inspection assistants. The Inspection Team shall be headed by an inspector from the [Technical Secretariat] [Organization].]

[3.3 Not later than 30 days after the entry into force of this Treaty each State Party shall notify the Director-General about the names, dates of birth, sex, ranks, qualifications and professional experiences of the persons proposed by the State Party to the inspector list.]

4. The Director-General shall determine the size of the inspection team and select its members from [personnel and experts of the [Technical Secretariat] [Organization] designated as inspectors] [the inspector list] [the [Technical Secretariat] [Organization] and non-[Technical Secretariat] [Organization] inspectors and inspection assistants on the maintained list], taking into account the circumstances of a particular request. [In addition, members of the inspection team may include other experts designated as inspectors when, in the view of the Director-General [and/or the Member States], expertise not available in the [Technical Secretariat] [Organization] is required.] The size of the inspection team shall be kept to a minimum necessary for the proper fulfilment of the inspection mandate. No national of the requesting State Party or the inspected State Party shall be a member of the inspection team. [The inspection team shall be headed by an authorized representative of the Director-General. A nomination for the leader of the inspection team shall be proposed by the Director-General and shall be approved by the Executive Council.]

5. Not later than [30] [60] days after the entry into force of this Treaty the [Technical Secretariat] [Organization] shall communicate, in writing to all States Parties, the names, nationalities and ranks of the inspectors [and/or inspection assistants] proposed for designation, as well as a description of their qualifications and professional experiences.

6. Each State Party shall immediately acknowledge receipt of the list of inspectors [and/or inspection assistants] proposed [for designation] [to be designated]. Any inspector [and/or inspection assistants] included [in this list] shall be regarded as accepted unless a State Party, not later than [30] days after acknowledgment of receipt of the list, declares its non-acceptance in writing. The State Party may include the reason for the objection. In the case of non-acceptance, the [proposed] inspector [and/or inspection assistants] shall not undertake or participate in verification activities on the territory or in any other place under the jurisdiction or control of the State Party which has declared its non-acceptance. [The [Technical Secretariat] [Organization] shall immediately confirm receipt of the notification of objection.]

[7.1 The [Technical Secretariat] [Organization] shall, as necessary, submit further proposals for the designation of inspectors [and/or inspection assistants] in addition to the initial list, and in any case keep the list [updated on a regular basis] [of designated inspectors up to date].]

[7.2 Each State Party may at any time propose to change its representatives on the inspector list. Each State Party shall promptly notify the Director-General if a representative of the State Party cannot fulfil the duties of an inspector and shall state the reason for it. The Director-General shall annually update the inspector list, taking into account proposals by State Parties and shall notify all States Parties about the replacements on the inspector list.]

8. Subject to the provision in paragraph 9, a State Party has the right at any time to object to an inspector [and/or inspection assistant] who has already been accepted. It shall notify the [Technical Secretariat] [Organization] of its objection in writing and [shall] [may] include the reason for the objection. Such objection shall come into effect 30 days after receipt by the [Technical Secretariat] [Organization]. [The [Technical Secretariat] [Organization] shall immediately confirm receipt of the notification of objection and inform the State Party of the date on which the inspector will cease to be designated for that State Party.]

9. A State Party that has been notified of an inspection shall not seek to have removed from the inspection team any of the [designated] inspectors [and/or inspection assistants] named in the inspection team list.

10. The number of inspectors [and/or inspection assistants] accepted by a State Party must be sufficient to allow for availability and rotation of appropriate numbers of inspectors [and/or inspection assistants].

11. If, in the opinion of the Director-General, the non-acceptance of proposed inspectors [and/or inspection assistants] impedes the designation of a sufficient number of inspectors [and/or inspection assistants] or otherwise hampers the effective fulfilment of the tasks of the [Technical Secretariat] [Organization], the Director-General shall refer the issue to the Executive Council.

12.1 The members of the inspection team carrying out an inspection of a facility of a State Party located on the territory of another State party shall be designated in accordance with the procedures set forth above as applied both to the inspected State Party and the Host State Party.

[12.2 Each person included in the inspector list shall receive relevant training. Such training shall be provided by the [Technical Secretariat] [Organization] pursuant to the procedures spelled out in the Operational Manual for On-Site Inspections. The [Technical Secretariat] [Organization] shall prepare and annually agree upon with the States Parties a schedule of education and training of inspectors.]

[12.3 Whenever amendments to the above-mentioned lists of inspectors are necessary or requested, replacement inspectors shall be designated in the same manner as set forth with respect to the original list.]

Privileges and Immunities [of Inspectors]

13. Each State Party shall, not later than 30 days after acknowledgment of receipt of the list of inspectors or of changes thereto, provide multiple entry/exit and/or transit visas and other such documents to enable each inspector to enter and to remain on the territory of that State Party for the purpose of carrying out inspection activities. These documents shall be valid for at least two years after their provision to the [Technical Secretariat] [Organization].

14. To exercise their functions effectively, [members of] inspection teams shall be accorded privileges and immunities as set forth in subparagraphs (a) to (i). Privileges and immunities shall be granted to members of the inspection team for the sake of this Treaty and not for the personal benefit of the individuals themselves. Such privileges and immunities shall be accorded to them for the entire period between arrival on and departure from the territory of the inspected State Party, and thereafter with respect to acts previously performed in the exercise of their official functions.

(a) The members of the inspection team shall be accorded the inviolability enjoyed by diplomatic agents pursuant to Article 29 of the Vienna Convention on Diplomatic Relations of 18 April 1961.

(b) The living quarters and office premises occupied by the inspection team carrying out inspection activities pursuant to this Treaty shall be accorded the inviolability and protection accorded to the premises of diplomatic agents pursuant to Article 30, paragraph 1, of the Vienna Convention on Diplomatic Relations.

(c) The papers and correspondence, including records, of the inspection team shall enjoy the inviolability accorded to all papers and correspondence of diplomatic agents pursuant to Article 30, paragraph 2, of the Vienna Convention on Diplomatic Relations. The inspection team shall have the right to use codes for their communications with the [Technical Secretariat] [Organization].

(d) Samples and approved equipment carried by members of the inspection team shall be inviolable subject to provisions contained in this Treaty and exempt from all customs duties. Hazardous samples shall be transported in accordance with relevant regulations.

(e) The members of the inspection team shall be accorded the immunities accorded to diplomatic agents pursuant to Article 31, paragraphs 1, 2 and 3, of the Vienna Convention on Diplomatic Relations.

(f) The members of the inspection team carrying out prescribed activities pursuant to this Treaty shall be accorded the exemption from dues and taxes accorded to diplomatic agents pursuant to Article 34 of the Vienna Convention on Diplomatic Relations.

(g) The members of the inspection team shall be permitted to bring into the territory of the inspected State Party, without payment of any customs duties or related charges, articles for personal use, with the exception of articles the import or export of which is prohibited by law or controlled by quarantine regulations.

(h) The members of the inspection team shall be accorded the same currency and exchange facilities as are accorded to representatives of foreign Governments on temporary official missions.

(i) The members of the inspection team shall not engage in any professional or commercial activity for personal profit on the territory of the inspected State Party.

15. When transiting the territory of non-inspected States Parties, the members of the inspection team shall be accorded the privileges and immunities enjoyed by diplomatic agents pursuant to Article 40, paragraph 1, of the Vienna Convention on Diplomatic Relations. Papers and correspondence, including records, and samples and approved equipment, carried by them, shall be accorded the privileges and immunities set forth in paragraph 14 (c) and (d).

16. Without prejudice to their privileges and immunities the members of the inspection team shall be obliged to respect the laws and regulations of the inspected State Party and, to the extent that is consistent with the inspection mandate, shall be obliged not to interfere in the internal affairs of that State. If the inspected State Party considers that there has been an abuse of privileges and immunities specified in this Protocol, consultations shall be held between the State Party and the Director-General to determine whether such an abuse has occurred and, if so determined, to prevent a repetition of such an abuse.

17. The immunity from jurisdiction of members of the inspection team may be waived by the Director-General in those cases when the Director-General is of the opinion that immunity would impede the course of justice and that it can be waived without prejudice to the implementation of the provisions of this Treaty. Waiver must always be express.

18. Observers shall be accorded the same privileges and immunities accorded to inspectors pursuant to this section, except for those accorded pursuant to paragraph 14 (d).

Points of Entry

19. Each State Party shall designate the points of entry and shall supply the required information to the [Technical Secretariat] [Organization] not later than 30 days after this Treaty enters into force for it. These points of entry shall be such that the inspection team can reach any inspection site from at least one point of entry within [12] [24] hours. Locations of points of entry shall be provided to all States Parties by the [Technical Secretariat] [Organization].

20. Each State Party may change the points of entry by giving notice of such change to the [Technical Secretariat] [Organization]. Changes shall become effective 30 days after the [Technical Secretariat] [Organization] receives such notification to allow appropriate notification to all States Parties.

21. If the [Technical Secretariat] [Organization] considers that there are insufficient points of entry for the timely conduct of inspections or that changes to the points of entry proposed by a State Party would hamper such timely conduct of inspections, it shall enter into consultations with the State Party concerned to resolve the problem.

Arrangements for use of non-scheduled aircraft

22. [For inspections where] [For conducting inspections as well as in cases where] timely travel is not feasible using scheduled commercial transport, an inspection team may need to utilize aircraft owned or chartered by the [Technical Secretariat] [Organization]. Not later than 30 days after this Treaty enters into force for it, each State Party shall inform the [Technical Secretariat] [Organization] of the standing diplomatic clearance number for non-scheduled aircraft transporting inspection teams and equipment necessary for inspection into and out of the territory in which an inspection site is located. Aircraft routings to and from the designated point of entry shall be along established international airways that are agreed upon between the States Parties and the [Technical Secretariat] [Organization] as the basis for such diplomatic clearance.

23. When a non-scheduled aircraft is used, the [Technical Secretariat] [Organization] shall provide the inspected State Party with a flight plan, through the National Authority, for the aircraft's flight from the last airfield prior to entering the airspace of the State in which the inspection site is located to the point of entry, not less than six hours before the scheduled departure time from that airfield. Such a plan shall be filed in accordance with the procedures of the International Civil Aviation Organization applicable to civil aircraft. For its owned or chartered flights, the [Technical Secretariat] [Organization] shall include in the remarks section of each flight plan the standing diplomatic clearance number and the appropriate notation identifying the aircraft as an inspection aircraft.

24.1 Not less than three hours before the scheduled departure of the inspection team from the last airfield prior to entering the airspace of the State in which the inspection is to take place, the inspected State Party shall ensure that the flight plan filed in accordance with paragraph 23 is approved so that the inspection team may arrive at the point of entry by the estimated arrival time.

[24.2 Where necessary the leader of an inspection team and a representative of the inspected State Party shall agree a basing area and a flight plan from the point of entry to the basing area of aircraft owned by the [Technical Secretariat] [Organization] or chartered by it which shall be used to conduct inspections in the inspected area and to transport the inspection team and the equipment to the inspected area.]

25. The inspected State Party shall provide parking, security protection, servicing and fuel as required by the [Technical Secretariat] [Organization] for the aircraft of the inspection team at the point of entry [and in the basing area] when such aircraft is owned or chartered by the [Technical Secretariat] [Organization]. Such aircraft shall not be liable for landing fees, departure tax, and similar charges. The [Technical Secretariat] [Organization] shall bear the cost of such fuel, security protection and servicing.

Administrative Arrangements

26.1 The inspected State Party shall provide or arrange for the amenities necessary for the inspection team such as communication means, interpretation services to the extent necessary for the performance of interviewing and other tasks, transportation, working space, lodging, meals, and medical care. In this regard, the inspected State Party shall be reimbursed by the Organization for such costs incurred by the inspection team.

[26.2 The inspected State Party shall designate its representative for interaction with an inspection team.]

[26.3 In the case of abuse, the Executive Council shall examine whether the requesting State Party should bear any of the financial implications of the challenge inspection.] ^{1/}

Approved Inspection Equipment

27. Subject to paragraph 29, there shall be no restriction by the inspected State Party on the inspection team bringing onto the inspection site such equipment, approved in accordance with paragraph 28, which the [Technical Secretariat] [Organization] has determined to be necessary to fulfil the inspection requirements. The [Technical Secretariat] [Organization] shall prepare and, as appropriate, update a list of approved equipment, which may be needed for the purposes described above, and regulations governing such

^{1/} A delegation has suggested, in case of abuse, punitive measures such as revoking rights of States Parties.

equipment which shall be in accordance with this Protocol. In establishing the list of approved equipment and these regulations, the [Technical Secretariat] [Organization] shall ensure that safety [and confidentiality] considerations for all the types of [facilities] [locations] at which such equipment is likely to be used, are taken fully into account. A list of approved equipment shall be considered and approved by the Conference.

28. The equipment shall be in the custody of the [Technical Secretariat] [Organization] and be designated, calibrated and approved by the [Technical Secretariat] [Organization]. The [Technical Secretariat] [Organization] shall, [to the extent possible,] select that equipment which is specifically designed for the specific kind of inspection required. Designated and approved equipment shall be specifically protected against unauthorized alteration.

Position on "certification": Should a State Party provide some equipment for a specific on-site inspection, some sort of special certification will need to be worked out (WP.90).

29. The inspected State Party shall have the right, without prejudice to the prescribed time-frames, to [inspect the equipment] [check that the equipment is in conformity with the standard approved equipment] in the presence of inspection team members at the point of entry, i.e., to check the identity of the equipment brought in or removed from the territory of the inspected State Party. To facilitate such identification, the [Technical Secretariat] [Organization] shall attach documents and devices to authenticate its designation and approval of the equipment. [The inspection of the equipment shall also ascertain to the satisfaction of the inspected State Parties that the equipment meets the description of the approved equipment for the particular type of inspection.] The inspected State Party may exclude equipment [not meeting that description or] without the above-mentioned authentication documents and devices. [Procedures for the inspection of equipment shall be considered and approved by the Conference.]

30. In cases where the inspection team finds it necessary to use equipment available on site not belonging to the [Technical Secretariat] [Organization] and requests the inspected State Party to enable the team to use such equipment, the inspected State Party shall comply with the request to the extent it can.

It has been suggested that the Technical Secretariat should attempt to acquire satellite imagery of the inspection area. Should this be approved, some provisions might have to be developed in this regard.

[Part 3: Procedures for Requesting an Inspection]
[Notification of Inspections of [Localities] [Areas]
under the Jurisdiction and Control of a State Party]

[Request for Conducting an Inspection]

31.1 [The request for an inspection to be submitted to the Executive Council and the Director-General shall contain at least the following information:

- (a) The State Party to be inspected;
- (b) The size and [type] [location] [nature] [and location] of the inspection site;
- (c) The concern regarding possible non-compliance with this Treaty including a specification of the relevant provisions of this Treaty about which the concern has arisen, and of the nature and circumstances of the possible non-compliance as well as [all appropriate information [obtained through the international monitoring system] on the basis of which the concern has arisen] [evidence of the possible non-compliance including use of nationally owned facilities];
- (d) The name of the observer of the requesting State Party; and
- (e) The point of entry to be used;
- (f) The requesting State Party may submit any additional information it deems necessary.]

[31.2 The request for an inspection by the requesting State Party shall contain the following information:

- (a) The name of the inspected State Party or indication that a violation could occur in an area not under the jurisdiction of any State;
- (b) The presumable type of a nuclear explosion (underground, under water, in the atmosphere);
- (c) The estimated time of violation with indication of possible error;
- (d) The estimated geographic coordinates of the place of violation with indication of possible error;
- (e) Factual data from the global monitoring network and/or national means of verification which were the basis for a request for inspection and evidence of the conduct of a nuclear explosion;
- (f) Boundaries of the proposed area for inspection;
- (g) Suggested types of activity by an inspection team in the inspected area; and
- (h) The name of the observer from the requesting State Party. The requesting State Party may also submit any additional information it deems necessary.]

[31.3 A State Party requesting an On-Site Inspection pursuant to paragraph ... of Article ... shall submit an inspection request to the Director-General. The request shall contain at least the following information:

- (a) The State Party to be inspected.

(b) The type, size and location of the site where the suspected nuclear explosion has allegedly taken place and the requested perimeter surrounding the inspection site:

- The inspection site shall consist of a continuous area, the size of which shall be the smallest compatible with the precision and other characteristics of those monitoring networks which are relevant to the specific event and to the specific site, in accordance with Part 7A of Section ... (IMS) of the Protocol.
- The size of the inspection site shall in no case exceed ... km² or a distance of ... km in any direction.
- The perimeter of the inspected site shall be specified on a map to the nearest second.

(c) The nature and circumstances of the alleged nuclear explosion, including at least:

- time of occurrence,
- environment,
- approximate yield.

(d) All reliable evidence and any other information upon which the request is based.

(e) The explanations provided by the suspected State Party, if available.

(f) The name of the observer of the requesting State Party.

The requesting State Party may submit any additional information it deems necessary.]

[31.4 Pursuant to paragraph ... of Article ... the inspection request submitted by the [Technical Secretariat] [Organization] to the Executive Council shall include:

(a) The original request and all additional information submitted by the requesting State Party, as applicable.

(b) The explanations and any other additional information submitted by the suspected State Party pursuant to paragraph ... of Article

(c) The report of the [Technical Secretariat] [Organization], comprising the experts' evaluation of the alleged nuclear explosion and their recommendations.

(d) The revised type, size and location of the site where the suspected nuclear explosion has allegedly taken place and the requested perimeter surrounding the inspection site:

- The inspection site shall consist of a continuous area, the size of which shall be the smallest compatible with:
 - * the precision and other characteristics of those monitoring networks which are relevant to the specific event and to the specific site, in accordance with Part 7A of Section ... (IMS) of the Protocol.
 - * all other relevant information provided during the [Technical Secretariat] [Organization] experts' evaluation of the request, including that provided by the State Parties involved.
- The size of the inspection site shall in no case exceed ... km² or a distance of ... km in any direction.
- The perimeter of the inspected site shall be specified on a map to the nearest second.

(e) The revised nature and circumstances of the alleged nuclear explosion including at least:

- time of occurrence,
- environment,
- approximate yield.]

[31.5 The Director-General shall within one hour acknowledge to the requesting State Party receipt of its request.]

[31.6 Not later than 24 hours after receipt of a request the Director-General shall notify the Executive Council and all States Parties about the request and its content.]

[31.7 Promptly after receipt of a request the Director-General shall undertake action aimed at obtaining additional information through the international monitoring system regarding the event specified in the request for an inspection. The specific procedures for obtaining additional information shall be set out in the respective Operational Manuals for Monitoring Systems. The Director-General shall inform the Executive Council about the proposed timing for obtaining the above additional information.]

[31.8 Any State Party may communicate to the Director-General a notification containing factual information from its national technical means of verification regarding the event specified in the request for an inspection. The Director-General shall promptly transmit the notification to the Executive Council.]

[Procedures for Consideration of a Request and for
Adoption of a Decision to Conduct Inspections]

[31.9 Not later than seven days after receipt of a request for an inspection the Executive Council shall at its meeting consider the request and take a decision concerning the conduct of an inspection. The Director-General shall prepare for the meeting a report containing all available information regarding the event as well as an inspection plan with information on the boundaries of the inspected area, proposed types of activity by the inspection team in the inspected area, the starting time and duration of the inspection, the number of inspectors, the name of the head of the inspection team and the approximate cost for the conduct of the inspection. Neither the requesting State Party nor the inspected State Party shall participate in taking a decision on conducting an inspection. If a decision has been taken to conduct an inspection, the Executive Council shall consider and approve a plan to conduct an inspection. (The procedures of decision-making to be agreed.)]

[31.10 Within 24 hours the Director-General shall notify all States Parties about the results of the consideration of the request by the Executive Council. In case of a decision to conduct an inspection, the notification shall contain an approved plan of an inspection. Each State Party shall have the right to request a report from the Director-General to the Executive Council. In case of such a request the Director-General shall within seven days transmit the report to the requesting State Party.]

[31.11 The Director-General shall issue to the head of an inspection team a mandate to conduct an inspection. The mandate for an inspection shall contain:

- (a) The name of the inspected State Party or shall indicate that a violation could occur in an area not under the jurisdiction of any State;
- (b) The boundaries of the site to be inspected;
- (c) The planned types of activity of the inspection team at the site to be inspected;
- (d) The estimated date of the inspection and its duration;
- (e) The point of entry;
- (f) The estimated date of arrival of the inspection team at the point of entry;
- (g) The estimated date of arrival of observers at the point of entry;
- (h) The estimated date of arrival of equipment at the point of entry;
- (i) The name of the head of the inspection team;

- (j) The names of inspectors of the inspection team;
- (k) The name of an observer; and
- (l) The list of equipment.]

[32. [Pursuant to the Executive Council approval of on-site inspection] The Director-General shall notify the [inspected] State Party not less than [12] [24] [48] hours before the planned arrival of the inspection team at the point of entry [, the requesting State Party being required to supply to him prior to this time advice as to the locality of the site to be inspected. Information on the locality will be conveyed at the same time by the Director-General to the Executive Council]. [This notification shall include the following information:

- (a) The point of entry;
- (b) The date and estimated time of arrival at the point of entry;
- (c) The means of arrival at the point of entry;
- (d) The location of the site to be inspected;
- (e) The names of the members of the inspection team;
- (f) If appropriate, aircraft clearance for special flights.]]

33.1 [Notifications made by the Director-General shall include the following information:

- [(a) The inspection request submitted by the [Technical Secretariat] [Organization] with all its annexes;
- (b) The decision of the Executive Council;]
- (c) The point of entry;
- (d) The date and estimated time of arrival at the point of entry;
- (e) The means of arrival at the point of entry;
- (f) [The [locality] [location] [boundaries] of the site to be inspected;]
- (g) The names of inspectors [as well as observers] and other members of the inspection team;
- (h) If appropriate, aircraft clearance for special flights [;
- (i) Types of activity of an inspection team in the inspection area;
- (j) The estimated date and duration of an inspection;

(k) The list of equipment;

(l) The list of equipment which the Director-General requests to transport from the point of entry to the inspected area; and

(m) The list of equipment which the Director-General requests to be given to the inspection team in the inspection area.]

[(n) The name and details of the observer of the requesting Party, as applicable].]

33.2 [The site to be inspected must consist of a continuous area, not exceeding [1,000] [100] km² or a distance of [50] [5] km in any direction.]

[33.3 The requesting State Party shall notify the Director-General of the location of the inspection site in due time for the Director-General to be able to include this information in the notification to the inspected State Party referred to in paragraph The Director-General shall also convey to the Executive Council the information on the location of the inspection site.]

[33.4 The requesting State Party shall designate the inspection site as specifically as possible using geographic coordinates. If possible, the requesting State Party shall also provide a map with a general indication of the inspection site.]

34. [The inspected State Party shall acknowledge the receipt of a notification by the [Technical Secretariat] [Organization] of an intention to conduct an inspection, not later than [1 hour] [12 hours] after receipt of such notification.]

[Notification of] [Procedures for] Inspections of [Localities] [Areas]
not under National Jurisdiction

35. [The Director-General may authorize, following a request from [the [Technical Secretariat] [Organization] or from] a State Party, an inspection of an area beyond national jurisdiction in order to clarify and resolve concerns regarding possible non-compliance with the Treaty.]

36. [[A State Party requesting such an inspection shall lodge particulars as to] [The inspection request shall contain at least the following information]:

(a) the [locality] [location] of the inspection site;

(b) the concern regarding possible non-compliance with the Treaty, including specification of the relevant provisions of the Treaty about which the concern has arisen, [and of the nature and circumstances of the possible non-compliance] as well as all appropriate information on the basis of which the concern has arisen; and

(c) the name of the observer of the requesting State Party [as applicable].]

[Part 4: Pre-Inspection Activities]

[Entry into the territory of the inspected State Party
and transfer to the inspection site]

37.1 The inspected State Party which has been notified of the arrival of an inspection team, shall ensure its immediate entry into the territory and shall through an in-country escort or by other means do everything in its power to ensure the safe conduct of the inspection team and its [baggage,] equipment and supplies, from its point of entry to the inspection site(s) [not later than 36 hours after arrival at the point of entry, if no other timing has been agreed upon] and to a point of exit.

[37.2 Pursuant to paragraph ..., the inspected State Party shall inspect the equipment of the inspection team at the point of entry. That inspection shall be completed within the time-frame specified in paragraph]

38.1 [The inspected State party shall, as necessary, assist the inspection team in reaching the inspection site not later than [12] [36] [48] hours after the arrival at the point of entry.]

[Pre-Inspection Briefing and Inspection Plan]

[38.2 Upon arrival at the inspection site and before commencement of the inspection, the Inspection Team shall be briefed by the inspected State Party representatives on safety and confidentiality issues and on administrative and logistic arrangements. The inspected State Party shall indicate sensitive locations within the inspection perimeter that are not related to the purpose of the inspection.]

[38.3 After the pre-inspection briefing, the Inspection Team shall prepare an initial inspection plan which specifies the activities to be carried out by the Inspection Team. The inspection plan shall be made available to the representatives of the inspected State Party. Its implementation shall be consistent with the provisions of Sections ... (Conduct of Inspection, Access regime, Safety, Confidentiality).]

[Verification of Location]

[38.4 To help establish that the inspection site to which the inspection team has been transported corresponds to the inspection site specified by the requesting State Party, the inspection team shall have the right to use approved location-finding equipment and to have such equipment installed according to its directions. The inspection team may verify its location by reference to local landmarks identified from maps. The inspected State Party shall assist the inspection team in this task.]

[Part 5:] Conduct of Inspections

General Rules

39.1 [The Inspection Team shall begin its inspection in the specified area to be inspected not later than [seven days] after it receives [a [request] [mandate] for inspection from the Executive Council [or the Director-General]] [the inspection mandate from the Director-General].] The members of the inspection team shall discharge their functions in accordance with the provisions of this Treaty [, elaborated in the Operational Manual for International On-Site Inspections].

[39.2 The inspected State Party shall provide access within the inspection site as soon as possible, but in any case not later than (12) hours after the arrival of the inspection team at the point of entry, in order to clarify the concern regarding possible non-compliance with this Treaty raised in the inspection request. The extent and nature of access to a particular area within the inspection site shall be negotiated between the inspection team and the inspected State Party on a managed access basis.]

[39.3 In meeting the requirement to provide access as specified in paragraph ..., the inspected State Party shall be under the obligation to allow the greatest degree of access, taking into account any constitutional obligations it may have with regard to proprietary rights or searches and seizures. The inspected State Party has the right under managed access to take such measures as are necessary to protect national security. The provisions in this paragraph may not be invoked by the inspected State Party to conceal evasion of its obligations not to engage in activities prohibited under this Treaty.]

[39.4 Immediately before taking measurements the members of an inspection team shall check up the working condition of the equipment brought to the inspection area by the inspected State Party. In case of equipment getting out of order during transportation the Director-General can extend the mandate in order to replace the deficient equipment.]

[39.5 On-site inspections can be conducted with the use of the following technologies:

(a) Topographic work for the purposes of determining the real coordinates of the inspection area and the coordinates of points where measurements shall be carried out in the area designated for inspection;

(b) Visual observations of the area including observations from aircraft, above water or submarine craft;

(c) Photo and video picture-taking in different wave lengths including photography from aircraft, above water and submarine craft;

(d) Taking samples of gas, soil and liquids from wells (up to 20 m deep) for the purposes of determining concentration of radioactive products of an explosion, including radioactive noble gases and tritium, as well as the content of stable gases, such as CO₂, CH₄, H₂;

(e) Measurement of radionuclide activity in the atmosphere, on the ground surface, underground, underwater, including remote spectral gamma survey from an aircraft or a submarine craft;

(f) Seismological survey of the inspected area with the use of passive and active seismic measurement methodology and of electric- and hydrodynamic pulse sources or explosions of individual charges of explosives;

(g) Geophysics study of the area, including magnetic, gravitational, and thermal measurements and measurements of the soil conductivity from an aircraft; and

(h) Drilling into the area of an estimated underground nuclear test for the purposes of obtaining radioactive products of an explosion.]

[39.6 An area for an inspection shall be proposed by the Director-General, taking into account a request by the requesting State Party, proceeding from:

(a) an estimated location of the ambiguous event by verification means defined in this Treaty;

(b) technical capacities of on-site inspection methods and means;

(c) geologic and geographic and environmental conditions, the level of technogenic activity at the estimated site of the conduct of a concealed nuclear explosion; and

(d) reasonable activity in the inspection procedures from the position of non-violation of the sovereignty of the inspected State Party and of an acceptable cost for the conduct of an inspection.]

[39.7 The area located on the territory of an inspected State party or under its jurisdiction for inspection with the use of technologies which propose using air-based means (aircraft, helicopters) should be one single area with a surface of not more than 1,000 km² or as long as not more than 50 km in any direction. The coordinates of the boundaries of the area shall be indicated in the inspection mandate.]

[39.8 The areas for inspection with the use of ground-based technologies should be within the limits of the area whose boundaries are indicated in the inspection mandate. The total surface of these areas should not be more than ... km² and a number of such areas not more than The data regarding the boundaries of the areas with an accuracy of up to 500 m shall be transmitted in writing by the head of the inspection team to the representative of the inspected State Party not less than 24 hours prior to the arrival of inspectors in those areas.]

[39.9 The inspected State Party may request to exclude from the inspection area, with the use of aircraft, of territories on which sensitive facilities are located. The surface of the territories should not exceed ... per cent of the inspection site surface.]

[39.10 The total number of inspectors present on the territory of the inspected State Party at any given time should not exceed 40 persons.]

40.1 The activities of the inspection team shall be so arranged as to ensure the timely and effective discharge of its functions and the least possible inconvenience to the inspected State party and disturbance to the area inspected.

[40.2 If the inspected State Party provides less than full access to areas, activities, or information, it shall be under the obligation to make every reasonable effort to provide alternative means to clarify the possible non-compliance concern that generated the inspection request.]

[40.3 ... days prior to conducting an inspection with the use of helicopters or aircraft the head of an inspection team shall submit to the representative of the inspected State Party a flight plan. The representative of the inspected State Party can request to change the flight plan to exclude obtaining sensitive information by the inspection team. The head of the inspection team shall take into account the request to the extent he deems it appropriate. Such request should be reflected in the factual report.]

41. In the performance of their duties on the territory of an inspected State Party, the members of the inspection team shall, if the inspected State Party so requests, be accompanied by representatives of the inspected State party, but the inspection team must not thereby be delayed or otherwise hindered in the exercise of its functions.

42.1 [Detailed procedures for the conduct of inspections shall be developed for inclusion in the Operational Manual for [International] On-Site Inspections.]

[Safety]

[Confidentiality]

[Access Regime]

[42.2 In carrying out the inspection in accordance with the inspection request, the inspection team shall use only those methods necessary to provide sufficient relevant facts to clarify the concern about possible non-compliance with the provisions of this Treaty, and shall refrain from activities not relevant thereto. It shall collect and document such facts as are related to the possible non-compliance with this Treaty by the inspected State Party, but shall neither seek nor document information which is clearly not related thereto, unless the inspected State Party expressly requests it to do so. Any material collected and subsequently found not to be relevant shall not be retained.]

[42.3 The inspection team shall be guided by the principle of conducting the inspection in the least intrusive manner possible, consistent with the effective and timely accomplishment of its mission. Wherever possible, it shall begin with the least intrusive procedures it deems acceptable and proceed to more intrusive procedures only as it deems necessary.]

[42.4 The inspection team and the inspected State Party shall negotiate: the extent of access to particular areas within the inspection site; the particular inspection activities, including sampling, to be conducted by the inspection team; the performance of particular activities by the inspected State Party; and the provision of particular information by the inspected State Party.]

[Conduct of Inspections in the Areas Not under the
Jurisdiction of any State]

[42.5 In case of an inspection of the territory not under the national jurisdiction of any State the Director-General after consultation with the respective States Parties selects the points of entry appropriate for a speedy arrival of an inspection team in the inspection area and basing points.]

[42.6 The State Parties on whose territory the points of entry and basing points are located shall assist in transporting an inspection team, its luggage, equipment and materials to the inspection site as well as in conducting an inspection.]

Communications

43.1 Inspectors shall have the right [throughout the in-country] [at all times during on-site inspection] period to communicate with the Headquarters of the [Technical Secretariat] [Organization]. For this purpose they may use their own, duly certified, approved equipment [with the authorization of the inspected State Party] and may request that the inspected State Party provide them with access to other telecommunications [if available]. The inspection team shall have the right to use its own [two-way system of radio communications] [radio communications system] between members of the inspection team.

[Equipment]

[43.2 The list of equipment allowed to be used in conducting an on-site inspection and the procedures for the use of such equipment shall be prepared and updated, as necessary, by the [Technical Secretariat] [Organization]. Each State Party may submit proposals on equipment for conducting inspections to be included in the list. In preparing such a list of permitted equipment and appropriate procedures the [Technical Secretariat] [Organization] shall take complete account of safety considerations for all types of facilities where such equipment may be used. The list of equipment permitted to be used in conducting on-site inspections shall be considered and approved by the Executive Council.]

[43.3 The [Technical Secretariat] [Organization] shall organize the preparation of equipment for on-site inspections on the basis of agreements with the States Parties possessing appropriate technologies. The States Parties which provided appropriate technologies and the [Technical Secretariat] [Organization] which has accepted such equipment for storage shall be responsible for the technical readiness of the equipment to conduct inspections. The [Technical Secretariat] [Organization] shall update the equipment and replace it by more efficient equipment. The equipment shall be provided with special protection from unauthorized modification.]

[43.4 In carrying out activity related to the conduct of on-site inspections in accordance with this Protocol the inspection team shall have the right to take to the territory of the inspected State Party and use the permitted equipment.]

[43.5 The complete list of equipment for conducting on-site inspections shall include:

- technologies specified in paragraph ...;
- equipment specified in paragraph]

Inspection team and inspected State Party rights

[44.1 The inspection team shall, in accordance with the relevant Articles of and Protocol to this Treaty, have the right [of] [to unimpeded] access to the inspection site.]

[44.2 The inspection team shall take into consideration suggested modifications of the inspection plan and proposals which may be made by the inspected State Party, at whatever stage of the inspection including the pre-inspection briefing, to ensure that sensitive equipment, information or areas, not related to the [scope] [object and purpose] of this Treaty, are protected.]

[44.3 The inspected State Party shall designate the perimeter entry/exit points to be used for access. The inspection team and the inspected State Party shall negotiate: the extent of access to any particular place or places within the final and requested perimeters as provided in paragraph 48; the particular inspection activities, including sampling, to be conducted by the inspection team; the performance of particular activities by the inspected State Party; and the provision of particular information by the inspected State Party.]

[44.4 In conformity with the relevant provisions on the Confidentiality Annex the inspected State Party shall have the right to take measures to protect sensitive installations and prevent disclosure of confidential information and data not related to the [scope] [object and purpose] of this Treaty. Such measures may include, inter alia.]

- (a) Removal of sensitive papers from office spaces;

- (b) Shrouding of sensitive displays, stores, and equipment;
- (c) Shrouding of sensitive pieces of equipment, such as computer or electronic systems;
- (d) Logging off of computer systems and turning off of data indicating devices;
- (e) Restriction of sample analysis to determine the presence or absence of substances relevant to the purpose of the inspection;
- (f) Using random selective access techniques whereby the inspectors are requested to select a given percentage or number of buildings of their choice to inspect; the same principle can apply to the interior and content of sensitive buildings;
- (g) In exceptional cases, giving only individual inspectors access to certain parts of the inspection site.]

[44.5 The inspected State Party shall make every reasonable effort to demonstrate to the inspection team that any object, building, structure, container or vehicle to which the inspection team has not had full access, or which has been protected in accordance with paragraph 48, is not used for purposes related to the possible non-compliance concerns raised in the inspection request.]

[44.6 This may be accomplished by means of, inter alia, the partial removal of a shroud or environmental protection cover, at the discretion of the inspected State Party, by means of a visual inspection of the interior of an enclosed space from its entrance, or by other methods.]

45.1 [Inspectors shall have the right to:

- [(a) conduct visual inspections of the area from the air, on the ground, and on and in the water;
- (b) conduct inspections of the area using infrared means of observation from the air, on the ground, and on and in the water;
- (c) take photographs in the visual and infrared parts of the spectrum from the air, on the ground, and on and in the water;]
- (d) measure radiation and levels of radioactivity in the atmosphere above the area, at ground level, underground and in water;
- (e) conduct temporary seismological measurements in the area;
- (f) conduct other geophysical measurements in the area, including magnetic, gravity and electrical resistivity measurements;

(g) conduct on-site drilling; and

(h) use radar imaging].]

45.2 [An aerial inspection may be carried out only with the permission of the inspected State Party, which shall have the right to deny access to such an inspection or to restrict its route or range.]

46. An Inspection Team conducting an inspection in an area not within any State's national jurisdiction may use any verification techniques which the Director-General deems appropriate.

47. The representatives of the inspected State Party shall have the right to observe all verification activities carried out by the inspection team.

48.1 The inspected State Party shall receive copies, [at its request,] of the information [and] [,] data [and samples] gathered at the inspected site.

[48.2 The inspected State Party shall have the right to limit the use of photo and video equipment beyond the inspected area.]

[48.3 The inspected State Party shall be reimbursed by the Organization in all expenses related to the stay and activity of an inspection team on the territory of the inspected State Party.]

49.1 Inspectors shall have the rights to request clarifications in connection with ambiguities that arise during an inspection. Such requests shall be made promptly through the representative of the inspected State Party. The representative of the inspected State Party shall provide the inspection team, during the inspection, with such clarification as may be necessary to remove the ambiguity.

[Overflights]

It has been suggested that an Overflights regime should be elaborated by a group of experts.

It has been suggested to consider an overflight regime for the implementation of Para 45.(a). Furthermore the use of commercially available aircraft could be considered. A view has also been expressed that an overflight regime should be negotiated on a case-by-case basis.

Collection, handling and analysis of samples

[50. [Subject to the provisions in paragraph ...] The inspection team may take [relevant] samples from the inspected area.]

[51. Where possible the analysis of samples shall be performed on-site. The inspection team shall have the right to perform on-site analysis of samples using approved equipment brought by it. At the request of the inspection team, the inspected State Party shall, in accordance with agreed procedures, provide assistance for the analysis of samples on-site.]

[52. The inspected State Party has the right to retain portions of all samples taken [at the on-site inspection site by the inspecting party] or take duplicate samples and be present when samples are analyzed on-site.]

[53.1 The inspection team shall, if it deems necessary, transfer samples for analysis off-site at [certified] laboratories designated by the Organization.]

[53.2 The Director-General on the basis of proposals of States Parties shall determine not more than five designated laboratories which correspond most adequately to the requirements for the designated laboratory to carry out sample analysis.]

[53.3 The tasks to be resolved at the designated laboratories:

- (a) Preparation of samples for quality analysis;
- (b) Radiometric, spectrometric, chromatographic, ion-selective, ... analyses of samples;
- (c) Sample comparison;
- (d) Provision of certified analysis data; and
- (e) Submission of a report on the work done, specifying methods, instruments and equipment used during such work.]

[54. The Director-General shall have the primary responsibility for the security, integrity and preservation of samples and for ensuring that the confidentiality of samples transferred for analysis off-site is protected. The Director-General shall do so in accordance with procedures, to be considered and approved by the Conference, for inclusion in the Operational Manual for International On-Site Inspections. He or she shall:

- (a) Establish a stringent regime governing the collection, handling, transport and analysis of samples;
- (b) Certify the laboratories designated to perform different types of analysis;
- (c) Oversee the standardization of equipment and procedures at these [designated] [certified] laboratories, mobile analytical equipment and procedures, and monitor quality control and overall standards in relation to the certification of these laboratories, mobile equipment and procedures; and
- (d) Select from among the [designated] [certified] laboratories those which shall perform analytical or other functions in relation to specific investigations.]

[55. When off-site analysis is to be performed, samples shall be analyzed in at least two [designated] [certified] laboratories [where feasible]. The [Technical Secretariat] [Organization] shall ensure the expeditious processing of the analysis. The samples shall be accounted for by the [Technical

Secretariat] [Organization] and any unused samples or portions thereof shall be returned to the [Technical Secretariat] [Organization].]

[56. The [Technical Secretariat] [Organization] shall compile the results of the laboratory analysis of samples relevant to compliance with this Treaty and include them in the final inspection report. The [Technical Secretariat] [Organization] shall include in the report detailed information concerning the equipment and methodology employed by the designated laboratories.]

Observers

57.1 In accordance with the provisions of Article ... on the participation of an observer in the inspection, the requesting State Party shall liaise with the [Technical Secretariat] [Organization] to coordinate the arrival of the observer at the same point of entry as the inspection team within a reasonable period of the inspection team's arrival.

[57.2 Not later than 30 days after the entry into force of this Treaty any State Party shall inform the Director-General of the names of observers. The Director-General shall include the nominations proposed by the States Parties in the list of observers. A person on the list of observers may also be on the list of inspectors.]

[57.3 Not later than 60 days after the entry into force of this Treaty the Director-General shall circulate the list of observers to all States parties. Each State Party shall promptly acknowledge receipt of the list of observers proposed for inclusion. Any observer included in the list shall be regarded as accepted unless any State Party declares, not later than 30 days after the acknowledgement of receipt of the list, its non-acceptance in writing. The State Party shall indicate the reasons for such non-acceptance. In that case the observer shall not participate in verification activity on the territory or in any other area under the jurisdiction or control of the State Party which has declared its non-acceptance.]

[57.4 Each State Party may at any time replace its representatives on the list of observers. The Director-General shall annually review the list of observers taking account of proposals by States Parties and notify all States Parties about changes of the list of observers.]

58.1 The observer shall have the right throughout the period of inspection to be in communication with the embassy of the requesting State Party located in the inspected State Party or, in the case of absence of an embassy, with the requesting State Party itself. The inspected State Party shall provide means of communication to the observer [if necessary].

[58.2 The observer shall have the right to arrive at the inspection site and to have access to the inspection site as granted by the inspected State Party.]

59. [The observer shall have the right to make recommendations to the inspection team, which the team shall take into account to the extent it deems appropriate.] Throughout the inspection, the inspection team shall keep the observer informed about the conduct of the inspection and the findings.

60. Throughout the in-country period, the inspected State Party shall provide or arrange for the amenities necessary for the observer such as communication means, interpretation services, transportation, [working space,] lodging, meals and medical care. All the costs in connection with the stay of the observer on the territory of the inspected State Party shall be borne by the requesting State Party.

Inspection duration

61.1 [An inspection shall not normally exceed [seven days] after the arrival of the Inspection Team at site in the territory of the State Party to be inspected. Periods of inspection may be extended by agreement with the representative of the inspected State Party.]

[61.2 Except for cases when drilling is carried out for sampling purposes, the duration of an inspection in the inspection area shall not exceed 40 days. The Director-General may decide to conduct inspections in two stages with an interval between them which is used for transporting the necessary instruments to the inspection area. Upon completion of the first stage, an inspection team shall leave the territory of the inspected State Party or by agreement with a representative of the inspected State Party shall wait for the second stage of inspection at an agreed point on the territory of the inspected State Party. Periods of inspection may be extended by agreement with a representative of the inspected State Party. The necessity and duration of operations related to drilling for the purposes of identifying an ambiguous events as a nuclear test shall be determined by the Director-General and approved by the Executive Council.]

Post Inspection Briefing

62. Upon completion of an inspection the inspection team shall meet with representatives of the inspected State Party and the personnel responsible for the inspection site to review the preliminary findings of the inspection team and to clarify any ambiguities. The inspection team shall provide to the representatives of the inspected State Party its preliminary findings in written form according to a standardized format, together with a list of any samples and other material [which the inspected State Party has allowed] to be taken off-site. The document shall be signed by the head of the inspection team. In order to indicate that he or she has taken notice of the contents of the document, the representative of the inspected State Party shall countersign the document. The meeting shall be completed not later than 24 hours after the completion of the inspection.

Departure

63. Upon completion of the post-inspection procedures, the inspection team and the observer shall leave, as soon as possible, the territory of the inspected State Party.

Reports

64.1 [Not later than [72 hours] after the inspection, the inspectors shall prepare a factual, [final] report on the activities conducted by them and on their findings. It shall only contain facts relevant to compliance with this Treaty, as provided for under the inspection mandate. The report shall also provide information as to the manner in which the State Party inspected cooperated with the inspection team. Differing observations made by inspectors may be attached to the report.]

[64.2 Not later than ... after the inspection the [Technical Secretariat] [Organization] shall submit to the Executive Council the final report on the inspection conducted and on its conclusions on the basis of a factual report, results of sample analysis in designated laboratories and data received by the international monitoring system as well as information provided by States Parties.]

65. [Upon the [Technical Secretariat] [Organization] completing the assessment of the inspection's findings, as provided by paragraph ... of Article ...] [The Director-General shall promptly transmit the final report of the inspection team to the requesting State Party, to the inspected State Party, to the Executive Council and to all other States Parties. The Director-General shall further transmit promptly to the Executive Council the assessments of the requesting and of the inspected States Parties, as well as the views of other States Parties which may be conveyed to the Director-General for that purpose, and then provide them to all States Parties.]

[SECTION:

[TRANSPARENCY] [ASSOCIATED] [CONFIDENCE BUILDING] MEASURES]

The following issues on transparency measures have been suggested for further consideration:

- *Exchange of information on events which might lead to misunderstandings*
- *Transparency measures related to former nuclear test sites*
- *Transparency measures related to cavities*
- *Facilities related to nuclear weapon tests*
- *Transparency measures related to chemical explosions*

- *Declaration of locations where certain chemical explosions are conducted routinely*
- *Prior notification of chemical explosions above a designated threshold*
- *Post event notification of unscheduled events/of all explosions above a designated threshold*
- *Sensor deployment at a limited number of specific sites, such as mines, which have chemical explosions above a designated threshold*
- *Visits by an inspection team of the Organization at such specific sites*

Dependent upon the outcome of discussions on the above listed transparency measures, in this section language could be introduced describing agreed transparency measures in detail and appropriate procedures to be applied.]

CONFERENCE ON DISARMAMENT

CD/1276
30 August 1994

Original: ENGLISH

LETTER DATED 29 AUGUST 1994 FROM THE REPRESENTATIVE OF THE UNITED STATES OF AMERICA TO THE CONFERENCE ON DISARMAMENT ADDRESSED TO THE DEPUTY SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING THE TEXT OF A MESSAGE BY THE PRESIDENT OF THE UNITED STATES TO THE CONFERENCE ON DISARMAMENT, DELIVERED ORALLY TO THE CONFERENCE ON 25 JANUARY 1994 BY THE DIRECTOR OF THE UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY, CONCERNING THE IMPORTANCE OF THE NEGOTIATION OF A COMPREHENSIVE AND VERIFIABLE BAN ON NUCLEAR EXPLOSIONS

I have the honor to forward to you a Message by the President of the United States to the Conference on Disarmament, delivered orally to the Conference on January 25, 1994, by the Director of the U.S. Arms Control and Disarmament Agency, concerning the importance of the negotiation of a comprehensive and verifiable ban on nuclear explosions. Through an oversight, this Message was not sent for registration as a CD document at the time, although it appears in CD/PV.666.

Could you please take the appropriate steps to register this Message as an official document of the Conference on Disarmament, and have it distributed to all member delegations and non-member States participating in the work of the Conference.

(Signed): Stephen J. Ledogar
Ambassador

THE WHITE HOUSE

WASHINGTON

January 24, 1994

I am grateful for the opportunity to address all those who are participating in the Conference on Disarmament. This Conference has several important items on its agenda as the 1994 session begins, including transparency in armaments, and it may assume others, such as a ban on fissile material production for nuclear explosive purposes. None is more important than the negotiation of a comprehensive and verifiable ban on nuclear explosions. This challenging, but crucial objective is the Conference's top priority. It reflects our common desire to take decisive action that will support and supplement the global nuclear non-proliferation regime and will further constrain the acquisition and development of nuclear weapons.

Regional instabilities, the end of the Cold War, and the growing threat of the proliferation of nuclear weapons have created new and compelling circumstances to encourage progress in disarmament. Accordingly, I decided last July to extend the moratorium on United States nuclear weapons tests and committed the United States to achieving a Comprehensive Test Ban Treaty. At the same time, I called on the other nuclear weapon states to observe a testing moratorium, and I do so again today.

I am confident that Ambassador Ledogar and the United States delegation will join with you in taking bold steps toward a world made safer through the negotiation at the earliest possible time of a Comprehensive Test Ban Treaty that will strengthen the security of all nations. You have my best wishes during this important Conference.

(Signed): Bill Clinton

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