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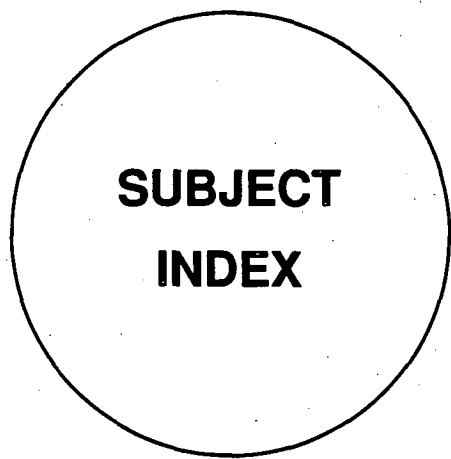
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CONFERENCE ON DISARMAMENT

NUCLEAR TEST BAN

COMPREHENSIVE NUCLEAR TEST BAN TREATY (CTBT)

VERIFICATION
SUBJECT INDEX
TO WORKING PAPERS
1976 - 1993



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



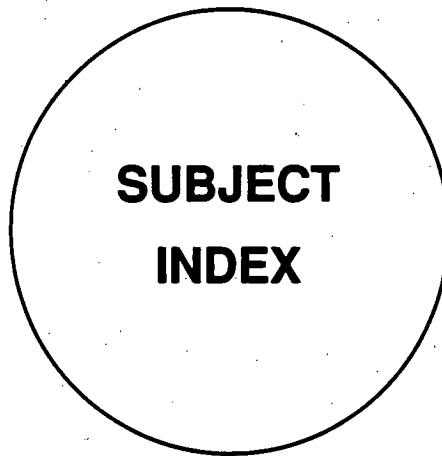
MAY 1994

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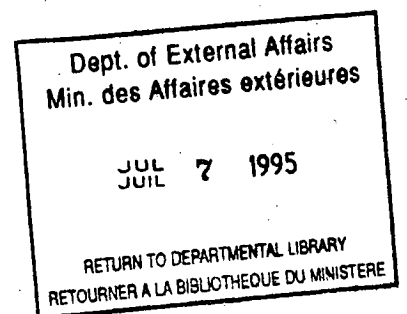


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PREFACE

**VERIFICATION SUBJECT INDEX
TO WORKING PAPERS 1976-1993**

This Subject Index covers working papers from the Conference on Disarmament for the years 1976-1993 relating to the question of the verification of a nuclear test ban. It has been prepared to facilitate discussions and research on this issue.

INTRODUCTION

In 1983, with the initiation of intense multilateral negotiations in the area of chemical weapons under Canadian chairmanship, Canada began a series of issue-specific compendiums as a primary research tool. These consisted of the minutes of Conference on Disarmament meetings (PV), plenary working papers (WP) and Ad Hoc Committee working papers (CD/--/WP). Subsequently, these compendiums were shared with other interested parties and distributed within the CD to assist and accelerate its work. Separate compendiums covered chemical weapons, outer space, and radiological weapons.

In this same spirit and in preparation for the early stages of negotiations towards a Comprehensive Nuclear Test Ban Treaty (CTBT), the Verification Research Program of the Department of Foreign Affairs and International Trade has produced a set of volumes compiling material from the CD on the subject of a nuclear test ban. These volumes include:

- PV 1990-1993 (January 1994)
- CD/NTB/WP 1990-1993 (January 1994)
- WP 1990-1993 (January 1994)

Purpose

This Subject Index seeks to serve as a second step in the basic research process. It has been designed to assist negotiators and researchers in their work as it relates to the verification aspects of a CTBT. Specifically, the Subject Index serves to facilitate subject access by indicating which working papers for the years 1976-1993 deal with a given subject and by drawing attention to comparable and/or related subject terms. It constitutes a companion volume to the compilations of CD plenary working papers (WP) and Ad Hoc Committee working papers (CD/NTB/WP) mentioned above.

While many scientific and technical advances have been achieved relating to verification of a nuclear test ban, many earlier ideas continue to have relevance to current concepts. Subject access to CD working papers throughout 1976-1993 should, therefore, provide a useful research tool for the on-going negotiations.

Scope

The listing of subject headings found in this Subject Index draws exclusively on the working papers which various national governments and the Ad Hoc Group of Scientific Experts (AHGSE) have submitted in the period 1976-93 in the plenary sessions of the CCD and CD, and also during the proceedings of the Ad Hoc Working Group on a Nuclear Test Ban (AHWGNTB) and later the Ad Hoc Committee on a Nuclear Test Ban (AHCNTB).

The fact that this Subject Index is intended to supplement the CTBT compendiums produced by Canada tends to delimit its scope in two important ways. First, the Subject Index covers only CD working papers. It does not cover excerpts from the minutes of the CD plenary meetings, other governmental publications, material generated by international and non-governmental organizations, and academic and scientific literature. To find references to these latter sources (except for excerpts from the minutes of the CD plenary meetings) the searcher should consult the Bibliography on Arms Control Verification: 1962-1991¹ together with its updating supplements published in October 1992² and October 1993³.

A second limitation on scope is that the Subject Index covers the years 1976-93 only.

Arrangement

Given changes in the use of terminology within the CD over the years, the selection of subject terms could not proceed on the basis of either inclusiveness or completeness. Instead, the criteria that guided the indexer were the practical usefulness of the subject terms and their currency. A basic pre-condition for the selection of a subject term was its appearance in the text of CD working papers.

The entries in this Subject Index are arranged alphabetically, letter by letter. A USE reference directs the reader to another subject term instead of the term first used. A SEE ALSO reference suggests related terms that the reader may also wish to consider.

Each entry in the Subject Index begins with a subject term in capitals and in bold face. Below the subject term is a scope note (SN) which defines the subject term or describes its scope. References to working papers follow. Each such reference consists of:

¹ Verification Research Unit, Bibliography on Arms Control Verification: 1962-1991. Ottawa: External Affairs and International Trade Canada, October 1991.

² Verification Research Unit, Bibliography on Arms Control and Verification: Update. Ottawa: External Affairs and International Trade Canada, October 1992.

³ Verification Research Unit, Bibliography on Arms Control Verification: Second Update. Ottawa: External Affairs and International Trade Canada, October 1993.

- the corporate author (when not indicated in the subject term itself);
- the CCD/CD document number;
- the date; and
- page numbers where the reference constitutes a small part of otherwise larger document.

The absence of page numbers signifies that the document in question is devoted in its entirety to the subject matter covered under the subject term. All references to working papers are entered with the earliest document listed first.

EG. GEO-CHEMICAL SAMPLING

SN: Refers to a series of methods used to search for dust or sand particles whose chemical structure is altered in characteristic ways by nuclear explosions.

Canada, CD/1199 (26.5.93), pp. 4;5;21-27.

Russian Federation, CD/NTB/WP.21 (11.6.93), p. 4.

SUBJECT INDEX

CTBT WORKING PAPERS: 1976-1993

This Subject Index has been provided to help with searches on a variety of subjects related to the verification of a CTB treaty. References to working papers include the corporate author (where appropriate), the CCD/CD document number, the date (in brackets), and page numbers. The absence of page numbers signifies that the document in its entirety is devoted to the subject in question. All references are entered with the earliest appearing first.

Entries using the name of a country as a subject heading refer to working papers that pertain to that country's national research program (seismic and non-seismic) related to the verification of a CTB treaty.

A USE reference directs the searcher to look under another subject term instead of the one used first.

A SEE ALSO reference is used to refer the reader to subject terms that are closely related in nature.

ACOUSTIC ATMOSPHERE SENSING

SN: Refers to the employment of microbarographs and infra-sound detectors in search for low-frequency sound and distortions in gravitational waves which are typically generated by atmospheric nuclear explosions.

Sweden, CD/NTB/WP.2 (30.8.82), p. 5.

Sweden, CD/1089 (25.7.91), p. 16.

France, CD/NTB/WP.17 (28.5.93), p. 7.

Russian Federation, CD/NTB/WP.21 (11.6.93), pp. 2;6.

France, CD/NTB/WP.23 (25.6.93), p. 7.

Australia, CD/NTB/WP.29 (24.8.93), p. 4.

Sweden, CD/1232 (6.12.93), p. 32.

SEE ALSO: NATIONAL TECHNICAL MEANS.

AD HOC GROUP OF SCIENTIFIC EXPERTS (AHGSE) FINAL REPORTS

SN: Refers to an expert group established in 1976 by the Conference of the Committee on Disarmament to design and develop an International Seismic Monitoring System (ISMS). The group reports on its activity in bi-annual Progress Reports, and on its Technical Tests in occasional reports.

CCD/558 (9.3.78).
 CD/43 (25.7.79).
 CD/448 (9.3.84).
 CD/720 (31.7.86).
 CD/903 (17.3.89).
 CD/1144 (13.3.92).

AHGSE PROGRESS REPORTS

CCD/513 (6.8.76); CCD/528 (1.3.77); CCD/534 (28.4.77);
 CCD/542 (11.8.77); CCD/576 (15.8.78); CD/18 (27.4.79);
 CD/61 (18.2.80); CD/119 (17.7.80); CD/150 (12.2.81);
 CD/210 (12.8.81); CD/260 (18.3.82); CD/318 (19.8.82);
 CD/348 (21.2.83); CD/399 (22.7.83); CD/499 (9.3.84);
 CD/535 (10.8.84); CD/583 (29.3.85); CD/616 (19.7.85);
 CD/682 (24.3.86); CD/721 (1.8.86); CD/745 (16.3.87);
 CD/778 (10.8.87); CD/818 (18.3.88); CD/853 (8.8.88);
 CD/904 (17.3.89); CD/944 (4.8.89); CD/981 (30.3.90);
 CD/981 (30.3.90); CD/1032 (10.8.90); CD/1032 (10.8.90);
 CD/1065 (22.2.91); CD/1097 (9.8.91); CD/1145 (13.3.92);
 CD/1163 (7.8.92); CD/1211 (10.8.93).

AHGSE Technical Test Report 1

CD/720 (31.7.86).

AHGSE Technical Test Report 2

CD/1144 (13.3.92).

AIRBORNE IMAGING

SN: Refers to the creation of photographic representations of objects, activities and/or terrain through sensors deployed onboard an aircraft.

Australia, CD/NTB/WP.15 (26.2.93), p. 4.
 Canada, CD/1199 (26.5.93), pp. 3-5;7-20.
 Australia, CD/NTB/WP.27 (24.8.93).
 Australia, CD/NTB/WP.29 (24.8.93), p. 4.
 Sweden, CD/1232 (6.12.93), p. 34.

**SEE ALSO: ON-SITE INSPECTIONS;
 SATELLITE IMAGING.**

AIRBORNE RADIONUCLIDE SENSING

SN: Refers to an activity designed to detect the presence, distribution and dose rates of radionuclides in the atmosphere from onboard an aircraft.

Australia, CD/NTB/WP.15 (26.2.93), p. 4.
 Canada, CD/1199 (26.5.93), pp. 21-27.
 France, CD/NTB/WP.17 (28.5.93), p. 6.
 Russian Federation, CD/NTB/WP.21 (11.6.93), pp. 3;10-11
 France, CD/NTB/WP.23 (25.6.93), pp. 4-5;10.
 Australia, CD/NTB/WP.29 (24.8.93), p. 4.
 Sweden, CD/1232 (6.12.93), p. 34.

SEE ALSO: GROUND-BASED RADIONUCLIDE SENSING;
 NATIONAL TECHNICAL MEANS.

AUSTRALIA

CD/448/App.2 (9.3.84), pp. 2;4;6;8;10;13;15;17;20.
 CD/448/App.3 (9.3.84), pp. 2;9.
 CD/448/App.4 (9.3.84), p. 2.
 CD/448/App.5 (9.3.84), p. 6.
 CD/531 (6.8.84).
 CD/775 (21.7.87).

AUSTRIA

CD/448/App.2 (9.3.84), pp. 2;4;6;8;10;13;15;17;20.
 CD/448/App.3 (9.3.84), p. 2.
 CD/448/App.4 (9.3.84), p. 2.
 CD/448/App.5 (9.3.84), p. 6.

BELGIUM

CD/93 18.4.80).
 CD/448/App.2 (9.3.84), pp. 6;10;17.
 CD/448 App.5 (9.3.84), p. 7.

BULGARIA

CD/448/App.2 (9.3.84), pp. 2;4;6;8;10;13;15;17;20.
 CD/448/App.3 (9.3.84), p. 2.
 CD/448/App.5 (9.3.84), p. 7.

CANADA

CCD/490 (20.4.76), p. 2.
 CD/448/App.2 (9.3.84), pp. 6;8;20.
 CD/448/App.3 (9.3.84), pp. 2;9.
 CD/448/App.6 (9.3.84), p. 3.
 CD/1094 (7.8.91).
 CD/1199 (26.5.93).
 CD/1201 (3.6.93).

COMMITTEE OF EXPERTS

SN: Refers to a proposed institutional organ of a CTB treaty with a mandate to oversee the technical aspects of verification of compliance with the treaty.

USSR et al., CD/130 (30.7.80), p. 4.
 USSR, CD/346 (16.2.83), pp. 3-5.
 Sweden, CD/381 (14.6.83), pp. 2;11-12.
 AHWGNTB, CD/NTB/CRP.4 (22.6.83).
 Japan, CD/388 (8.7.83), pp. 3-4.
 Australia, CD/400 (22.7.83).
 AHWGNTB, CD/412 (16.8.83), p. 8.
 FRG, CD/612 (10.7.85), pp. 11-14;15.
 Sweden, CD/1089 (25.7.91), pp. 3;4;5;10-12.

SEE ALSO: CONSULTATIVE COMMITTEE;
 INTERNATIONAL ATOMIC ENERGY AGENCY;
 SECRETARIAT, CTBT.

Conference of States Parties. USE CONSULTATIVE COMMITTEE.

CONSULTATIVE COMMITTEE

SN: Refers to a proposed institutional organ of a CTB treaty with a mandate to oversee the political aspects of implementation of the treaty.

Sweden, CCD/526/Rev.1 (5.7.77), p. 2.
 Sweden, CD/381 (14.6.83), pp. 2;10-12.
 Australia, CD/384 (20.6.83).
 AHWGNTB, CD/NTB/CRP.4 (22.6.83).
 AHWGNTB, CD/NTB/CRP.5 (6.7.83), p. 1.
 Japan, CD/388 (8.7.83), pp. 2-4.
 AHWGNTB, CD/412 (16.8.83), pp. 7-8.
 FRG, CD/612 (10.7.85), pp. 9-11;13;14.
 Sweden, CD/1089 (25.7.91), pp. 3;9-10.

SEE ALSO: COMMITTEE OF EXPERTS;
 INTERNATIONAL ATOMIC ENERGY AGENCY;
 SECRETARIAT, CTBT.

CZECHOSLOVAKIA

CD/448/App.2 (9.3.84), pp. 2;4;8;10;13;15;17.
 CD/448/App.3 (9.3.84), pp. 2-3;9.
 CD/448/App.5 (9.3.84), pp. 8-7.

DELHI DECLARATION

SN: Refers to an appeal issued in 1985 by the governments of Argentina, India, Mexico and Sweden which called for an immediate moratorium on underground nuclear testing as a first step towards the negotiation of a CTB treaty.

Argentina et al., CD/549 (6.2.85).
 Argentina et al., CD/679 (10.3.86).
 USSR, CD/729 (25.8.86), p. 7.

SEE ALSO: MEXICO CITY DECLARATION.

DENMARK

CD/448/App.2 (9.3.84), pp. 2;10;15;20.
 CD/448/App.3 (9.3.84), pp. 3;12.
 CD/448/App.5 (9.3.84), p. 8.

DETECTION THRESHOLD, SEISMIC

SN: Refers to the lowest seismic magnitude at which a seismic event can be discovered and recorded.

Sweden, CCD/481 (26.3.76), pp. 11-12.
 UK, CCD/486 and Corr.1 (12.4.76), pp. 1;3-4.
 UK, CCD/488 (12.4.76), pp. 3-4.
 US, CCD/491 (20.4.76), p. 13.
 Finland, CCD/509 (28.7.76).
 UK, CD/402 (1.8.83), pp. 3-5;7-8.
 FRG, CD/491 (28.3.84).
 UK, CD/610 (9.7.85), pp. 2-6;13-16.
 FRG, CD/624 (26.7.85), pp. 10-13;26-36.
 USSR, CD/638 (20.8.85), p. 2.
 Sweden, CD/712 (14.7.86), pp. 8-11.

SEE ALSO: IDENTIFICATION THRESHOLD.

DRAFT CTB TREATIES AND RELATED DOCUMENTS

SN: Refers to documents containing proposals on the scope and structure of a CTB treaty, as well as the texts of extant test ban treaties.

USSR, USA, CCD/496 (23.6.76).
 USSR, CCD/523 (22.2.77).
 Sweden, CCD/526/Rev.1 (5.7.77).
 USSR, UK, USA, CD/310 (30.7.80), p. 3.
 USSR, CD/346 (16.2.83).
 Sweden, CD/381 (14.6.83).
 Bulgaria, GDR, CD/629 (2.8.85).
 Socialist Group, CD/701 (13.6.86).
 GDR, CD/746 (24.4.87).
 Bulgaria et al., CD/756 (17.6.87).
 USA, CD/1066 (8.3.91).
 USA, CD/1067 (8.3.91).
 Sweden, CD/1089 (25.7.91).
 Sweden, CD/1202 (3.6.93).
 Sweden, CD/1232 (6.12.93).

SEE ALSO: PARTIAL TEST BAN TREATY AMENDMENT CONFERENCE.

EGYPT

CD/448/App.2 (9.3.84), p. 20.
 CD/448/App.3 (9.3.84), p. 3.

ELECTRICAL RESISTIVITY MAPPING

SN: Refers to the mapping of electrical resistivity in a given area in search for anomalous groundwater displacements as indicators of small underground nuclear explosions.

Canada, CD/1199 (26.5.93), pp. 2-4;5-6;28-36.

SEE ALSO: ON-SITE INSPECTIONS.

ELECTRO-MAGNETIC PULSE SENSING

SN: Refers to activity designed to detect radiation made up of oscillating electric and magnetic fields typically generated by atmospheric nuclear explosions.

Sweden, CD/NTB/WP.2 (30.8.82), p. 6.
 France, CD/NTB/WP.17 (28.5.93), pp. 6-7;10.
 Russian Federation, CD/NTB/WP.21 (11.6.93), pp. 2;5.
 Norway, CD/NTB/WP.25 (5.8.93), pp. 5-6.

SEE ALSO: NATIONAL TECHNICAL MEANS.

Executive Council. USE CONSULTATIVE COMMITTEE.

EVASION

SN: Refers to an attempt to escape the ban on controlled activities through clandestine testing activities.

Sweden, CCD/481 (26.3.76), pp. 17-19.

Canada, CCD/490 (20.4.76), pp. 5-12.

UK, CD/402 (1.8.83), pp. 4-6.

UK, CD/610 (9.7.85), pp. 11-13.

FRG, CD/624 (26.7.85), pp. 41-60.

Sweden, CD/712 (14.7.86), pp. 6-8.

Australia, New Zealand, CD/1081 (11.6.91), p. 4.

SEE ALSO: PEACEFUL NUCLEAR EXPLOSIONS.

FEDERAL REPUBLIC OF GERMANY

CD/73 (5.3.80).

CD/448/App.2 (9.3.84), pp. 2;4;8;10;13;15;17;20.

CD/448/App.3 (9.3.84), pp. 4;9;12.

CD/448/App.4 (9.3.84), pp. 2-3;11.

CD/448/App.5 (9.3.83), pp. 9-10.

CD/448/App.6 (9.3.84), pp. 3-4.

CD/491 (28.3.84), pp. 7-11.

FINLAND

CD/448/App.2 (9.3.84), pp. 2;4;6;10.

CD/448/App.3 (9.3.84), p. 3.

CD/448/App.4 (9.3.84), p. 2.

CD/448/App.5 (9.3.84), p. 8.

GEO-CHEMICAL SAMPLING

SN: Refers to a series of methods used to search for dust or sand particles whose chemical structure is altered in characteristic ways by nuclear explosions.

Canada, CD/1199 (26.5.93), pp. 4;5;21-27.

Russian Federation, CD/NTB/WP.21 (11.6.93), p. 4.

SEE ALSO: ON-SITE INSPECTIONS.

GEO-MAGNETIC FIELD SENSING

SN: Refers to monitoring of the Earth's magnetic field in search for characteristic disturbances indicative of nuclear explosions in space.

Russian Federation, CD/NTB/WP.21 (11.6.93), pp. 3;7-8.

SEE ALSO: NATIONAL TECHNICAL MEANS.

GERMAN DEMOCRATIC REPUBLIC

CD/448/App.2 (9.3.84), pp. 4;6;10;13;15;17;20.

CD/448/App.3 (9.3.84), pp. 3-4;9.

CD/448/App.5 (9.3.84), p. 9.

GROUND-BASED RADIONUCLIDE SENSING

SN: Refers to an activity designed to detect the presence, distribution and dose rates of radionuclides in the atmosphere by means of networks of ground-based stations.

Sweden, CD/257 (8.3.82).

Sweden, CD/NTB/WP.2 (30.8.82), pp. 4-5.

Sweden, CD/381 (14.6.83), pp. 6;9;11.

Belgium, CD/NTB/WP.5 (21.7.83).

Sweden, CD/403 (11.8.83).

GDR, CD/746 (24.4.87), p. 4.

Bulgaria *et al.*, CD/756 (17.6.87), p. 4.

GDR, CD/902 (16.3.89), pp. 2-4.

Australia, New Zealand, CD/1081 (11.6.91), p. 4.

Sweden, CD/1089 (25.7.91), pp. 4;14-15.

Australia, CD/NTB/WP.15 (26.2.93), p. 4.

Canada, CD/1199 (26.5.93), pp. 2-4;6;37-40.

France, CD/NTB/WP.17 (28.5.93), p. 6.

Sweden, CD/1202 (3.6.93), p. 3.

Russian Federation, CD/NTB/WP.21 (11.6.93), pp. 3;9.

France, CD/NTB/WP.23 (25.6.93), pp. 4-5;10.

Australia, CD/NTB/WP.29 (24.8.93), p. 4.

Netherlands, CD/NTB/WP.32 (24.8.93), pp. 1-4.

Sweden, CD/1232 (6.12.93), pp. 26; 29-30.

**SEE ALSO: AIRBORNE RADIONUCLIDE SENSING;
NATIONAL TECHNICAL MEANS.**

HUNGARY

CD/448/App.2 (9.3.84), pp. 2;4;6;8;11;13;15;17;20.

CD/448/App.3 (9.3.84), pp.4;12.

CD/448/App.5 (9.3.84), p. 10.

HYDROACOUSTIC MONITORING

SN: Refers to the employment of hydrophones, sea-pressure sensors and towed-array sonars for the purpose of verifying a comprehensive ban on nuclear test explosions in the oceans.

AHGSE, CD/210 (12.8.81), pp. 2-3.
 Sweden, CD/NTB/WP.2 (30.8.82), p. 6.
 Sweden, CD/1089 (25.7.91), p. 16.
 Australia, CD/NTB/WP.15 (26.2.93), p. 3.
 France, CD/NTB/WP.17 (28.5.93), pp. 8-9.
 Russian Federation, CD/NTB/WP.21 (11.6.93), pp. 3-4.
 New Zealand, CD/NTB/WP.22 (25.6.93).
 France, CD/NTB/WP.23 (25.6.93), pp. 2-4;9.
 Norway, CD/NTB/WP.25 (5.8.93), pp. 1-5.
 Australia, CD/NTB/WP.26 (24.8.93).
 Australia, CD/NTB/WP.29 (24.8.93), p. 4.
 Netherlands, CD/NTB/WP.32 (24.8.93), pp. 4-5.
 Sweden, CD/1232 (6.12.93), pp. 22;23;30-31.

SEE ALSO: NATIONAL TECHNICAL MEANS.

IDENTIFICATION THRESHOLD, SEISMIC

SN: Refers to the lowest seismic magnitude at which the origins of a seismic event can be determined with high degree of probability.

Sweden, CCD/481 (26.3.76), pp. 12-15.
 Norway, CCD/484 (9.4.76).
 UK, CCD/486 and Corr. 1 (12.4.76), p. 2.
 Japan, CCD/489 (13.4.76).
 USA, CCD/491 (20.4.76), pp. 13-15.
 UK, CCD/492 (21.4.76), pp. 1-4.
 Japan, CCD/524 (24.2.77).
 UK, CD/402 (1.8.83), pp. 3-5;7-8.
 FRG, CD/624 (26.7.85), pp. 13-19;26-36.
 Sweden, CD/712 (14.7.86), pp. 3-6.

SEE ALSO: DETECTION THRESHOLD, SEISMIC.

INDIA

CD/448/App.2 (9.3.84), pp. 4;6;11.
 CD/448/App.3 (9.3.84), p. 4.

INDONESIA

CD/448/App.2 (9.3.84), p. 4.
 CD/448/App.3 (9.3.84), p. 4.

INFORMATION SHARING

SN: Refers to the placement of information derived from national sources, including National Technical Means, at the disposal of other States Parties to a CTB treaty.

AHWGNTB, CD/NTB/CRP.2 (27.4.83), p. 1.
 Australia, CD/NTB/WP.28 (24.8.93), p. 9.
 Australia, CD/NTB/WP.29 (24.8.93), p. 5.

SEE ALSO: NATIONAL TECHNICAL MEANS;
 TRANSPARENCY MEASURES.

INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)

SN: Refers to a proposal to invest the IAEA with a role in the implementation of a CTB treaty.

Sweden, CD/1202 (3.6.93), pp. 3-5.
 Australia, CD/NTB/WP.30 (24.8.93), pp. 3-4.
 Sweden, CD/1232 (6.12.93), pp. 2-32.

SEE ALSO: COMMITTEE OF EXPERTS;
 CONSULTATIVE COMMITTEE;
 SECRETARIAT, CTBT.

INTERNATIONAL DATA CENTRE (IDC)

SN: Refers to a component of the International Seismic Monitoring System responsible for the processing, storing and dissemination of seismic data provided by National Data Centres.

AHGSE, CCD/558 (9.3.78), pp. 57-64.
 AHGSE, CCD/558/Add.1 (9.3.78), pp. 75-94.
 AHGSE, CD/43 (25.7.79), pp. 35-46.
 AHGSE, CD/43/Add.1 (25.7.79), pp. 81-97.
 Sweden, CD/45 (30.7.79).
 Sweden, CD/381 (14.6.83), pp. 5-6.
 AHGSE, CD/448 (9.3.84), pp. 23-32;35.
 AHGSE, CD/448/App.7 (9.3.84).
 AHGSE, CD/720 (31.7.86), pp. 27-48;51-52.
 AHGSE, CD/903 (17.3.89), pp. 7-8;19-23.
 AHGSE, CD/1097 (9.8.91), pp. 7-8.
 AHGSE, CD/1144 (13.3.92), pp. 17-24.
 AHGSE, CD/1211 (10.8.93), pp. 5-6;7-8.

SEE ALSO: NATIONAL DATA CENTRES.

International Management Panel. USE CONSULTATIVE COMMITTEE.

International Seismic Data Exchange. USE INTERNATIONAL SEISMIC MONITORING SYSTEM.

INTERNATIONAL SEISMIC MONITORING SYSTEM (ISMS)

SN: Refers to a formalised method of exchanging seismic data among individual States Parties to a treaty on a Comprehensive Test Ban for the purpose of detecting, locating and identifying seismic events.

Sweden, CCD/481 (26.3.76), p. 19.
 Sweden, CCD/482 (26.3.76).
 AHGSE, CCD/558 (9.3.78), pp. 7-74.
 UN Secretary-General, CD/86 (16.4.80), pp. 34-36;37.
 Australia, CD/95 (22.4.80).
 USSR, UK, USA, CD/130 (30.7.80), p. 4.
 Norway, CD/310 (11.8.82).
 Sweden, CD/NTB/WP.2 (30.8.82), pp. 2-4.
 USSR, CD/346 (16.2.83), pp. 3-4.
 AHGNTB, CD/NTB/CRP.2 (27.4.83), pp. 1-3.
 Sweden, CD/381 (14.6.83), pp. 2;5-6.
 Japan, CD/388 (8.7.83), p. 2.
 Japan, CD/389 (8.7.83).
 Norway, CD/395 (19.7.83), pp. 1-2.
 AHWGNTB, CD/412 (16.8.83), pp. 6-7.
 FRG, CD/612 (10.7.85).
 FRG, CD/624 (26.7.85).
 Japan, CD/626 (1.8.85).
 GDR, CD/746 (24.4.87), pp. 2-4.
 Bulgaria et al., CD/756 (17.6.87), p. 4.
 Norway, CD/763 (24.6.87).
 GDR, CD/902 (16.3.89), pp. 2-4.
 Sweden, CD/1089 (25.7.91), pp. 4;12-14.
 Australia, CD/NTB/WP.15 (26.2.93), pp. 2-3.
 Sweden, CD/1202 (3.6.93), pp. 3;4.
 AHGSE, CD/1211 (10.8.93), pp. 4-15.
 Australia, CD/NTB/WP.29 (24.8.93), p. 4.
 Sweden, CD/1232 (6.12.93), pp. 22;26-28.

SEE ALSO: NETWORKS, SEISMIC.

**INTERNATIONAL SEISMIC MONITORING SYSTEM COMMUNICATIONS: NDC -
IDC**

Sweden, CCD/482 (26.3.76), pp. 4-5.
 FRG, CD/624 (26.7.85), pp. 24-26.
 AHGSE, CD/1089 (9.8.91), pp. 8-9.
 AHGSE, CD/1144 (13.3.92), p. 25.

**INTERNATIONAL SEISMIC MONITORING SYSTEM: NON-WMO/GTS DATA
EXCHANGE**

AHGSE, CCD/558 (9.3.78), pp. 51-53.
 AHGSE, CD/448 (9.3.84), pp. 20-21.

AHGSE, CD/448/App.6 (9.3.84), pp. 6-12.
 AHGSE, CD/1144 (13.3.92), p. 26.

IONOSPHERIC ANOMALY SENSING

SN: Refers to monitoring of ionosphere in search for anomalous acoustic soundwaves typically generated by nuclear explosions.

Sweden, CD/1089 (25.7.91), p. 16.
 France, CD/NTB/WP.17 (28.5.93), p. 10.
 Sweden, CD/1232 (6.12.93), p. 32.

ITALY

CD/448/App.2 (9.3.84), pp. 2;4;6;8;11;15;17;20.
 CD/448/App.3 (9.3.84) p. 5.
 CD/448/App.5 (9.3.84), p. 10.

JAPAN

CD/448/App.2 (9.3.84), pp. 4;6;8;10;11;13;15;17;18;20.
 CD/448/App.3 (9.3.84), pp. 5;9-10.
 CD/448/App.4 (9.3.84), pp. 3;11.
 CD/448/App.5 (9.3.84), pp. 10-11.

LUMINO-THERMIC EFFECT SENSING

SN: Refers the employment of optical sensors in the search for a characteristic double light pulse which is typical of atmospheric nuclear explosions.

France, CD/NTB/WP.17 (28.5.93), pp. 6-7;10.

SEE ALSO: NATIONAL TECHNICAL MEANS.

MEXICO CITY DECLARATION

SN: A proposal advanced in 1986 by the governments of Argentina, India, Mexico and Sweden containing a package of multilateral verification measures to facilitate an immediate moratorium on underground nuclear testing.

Argentina et al., CD/723 (15.8.86).
 Argentina et al., CD/725 (20.8.86).
 USSR, CD/729 (25.8.86), p. 7.
 USSR, CD/730 (27.8.86).

SEE ALSO: DELHI DECLARATION.

NATIONAL DATA CENTRES (NDCs)

SN: Refers to components of International Seismic Monitoring System responsible for collecting seismic data from network of national seismic stations and transmitting them to the International Data Centre.

AHGSE, CCD/558/Add.1 (9.3.78), pp. 81-82;88-90;91-94.
 Sweden, CD/381 (14.6.83), p. 2.
 AHGSE, CD/720 (31.7.86), pp. 8-11;49.
 AHGSE, CD/903 (17.3.89), pp. 6-7;14-18.
 Norway, CD/935 (21.7.89), p. 3.
 AHGSE, CD/1097 (9.8.91), p. 7.
 AHGSE, CD/1144 (13.3.92), pp. 11-16.
 AHGSE, CD/1211 (10.8.93), pp. 5;11.

SEE ALSO: INTERNATIONAL DATA CENTRE.

NATIONAL TECHNICAL MEANS (NTMs)

SN: Refers to data collection equipment used for the monitoring of compliance with provisions of an arms control and/or disarmament agreement which is under exclusive national control and is positioned outside the borders of the monitored party.

USSR, UK, USA, CD/130 (30.7.80), p. 4.
 Group of 21, CD/181 (24.4.81), p. 3.
 USSR, CD/346 (16.2.83), pp. 2-3.
 AHWGNTB, CD/NTB/CRP.2 (27.4.83), p. 1.
 Sweden, CD/381 (14.6.83), p. 2.
 Japan, CD/388 (8.7.83), p. 2.
 AHWGNTB, CD/412 (16.8.83), pp. 6-7.
 Norway, CD/599 (20.6.85), p. 4.
 GDR, CD/746 (24.4.87), pp. 2-3.
 Bulgaria et al., CD/756 (17.6.87), p. 4.
 Sweden, CD/1089 (25.7.91), pp. 5;16.
 Australia, CD/NTB/WP.15 (26.2.93), p. 4.
 Australia, CD/NTB/WP.29 (24.8.93), p. 5.
 Sweden, CD/1232 (6.12.93), p. 8.

SEE ALSO: ACOUSTIC ATMOSPHERE SENSING;
 AIRBORNE RADIONUCLIDE SENSING;
 ELECTRO-MAGNETIC PULSE SENSING;
 GEO-CHEMICAL SAMPLING;
 GEO-MAGNETIC FIELD SENSING;
 GROUND-BASED RADIONUCLIDE SENSING;
 HYDROACOUSTIC MONITORING;
 INFORMATION SHARING;
 LUMINO-THERMIC EFFECT SENSING;
 NETWORKS, SEISMIC;
 NON-PHYSICAL/PSYCHOLOGICAL INSPECTIONS;
 SATELLITE IMAGING;

SEISMIC ARRAY STATIONS;
STATIONS, SEISMOGRAPH.

NETHERLANDS

CD/448/App.2 (9.3.84), pp. 2;6;11;15;18;20.
CD/448/App.3 (9.3.84), pp. 5;10.
CD/448/App.4 (9.3.84), p. 3.
CD/448/App.5 (9.3.84), p. 11.
CD/448/App.6 (9.3.84), p. 4.
CD/NTB/WP.32 (24.8.93).

NETWORKS, SEISMIC

SN: Refers to functional integration of individual seismic stations and arrays to operate as single seismic systems.

Sweden, CCD/482 (26.3.76), pp. 2-4.
UK, CCD/486 and Corr. 1 (12.4.76), pp. 6-7.
AHGSE, CCD/558 (9.3.78), pp. 26-49.
AHGSE, CCD/558/Add.1 (9.3.78), pp. 11-72.
AHGSE, CD/448 (9.3.84), pp. 6-8;33.
FRG, CD/624 (26.7.85), pp. 36-40.
Norway, CD/714 (14.7.86).
Australia, CD/717 (18.7.86).
Norway, CD/862 (23.8.88).
AHGSE, CD/903 (17.3.89), pp. 5-6;12-13.
Norway, CD/935 (21.7.89), p. 2.
Indonesia et al., CD/1054 (4.2.91), pp. 11-14.
AHGSE, CD/1097 (9.8.91), pp. 6-7.
AHGSE, CD/1144 (13.3.92), pp. 5;9-10.
France, CD/NTB/WP.23 (25.6.93), pp. 2;8.
AHGSE, CD/1211 (10.8.93), pp. 5;7.

SEE ALSO: INTERNATIONAL SEISMIC MONITORING SYSTEM;
NATIONAL TECHNICAL MEANS.

NEW ZEALAND

CCD/536 (22.7.77).
CD/448/App.2 (9.3.84), pp. 2;8;11;15;18;20.
CD/448/App.3 (9.3.84), p. 5.
CD/448/App.4 (9.3.84), p. 3.
CD/448/App.5 (9.3.84), p. 11.
CD/775 (21.7.87).
CD/NTB/WP.22 (25.6.93).

NON-PHYSICAL/PSYCHOLOGICAL INSPECTIONS (NPPIs)

SN: Refers to efforts to draw upon personal knowledge of individuals of violations as the means of verifying a CTB treaty.

Norway, CD/1151 (1.6.92), p. 8.

SEE ALSO: NATIONAL TECHNICAL MEANS.

NORWAY

CD/310 (11.8.82).
 CD/395 (19.7.83).
 CD/448/App.2 (9.3.84), pp. 2;5;7;8;11;13;15.
 CD/448/App.3 (9.3.84), p. 6.
 CD/448/App.4 (9.3.84), p. 9.
 CD/448/App.5 (9.3.84), p. 12.
 CD/448/App.6 (9.3.84), pp. 4-5.
 CD/507 (15.6.84).
 CD/599 (20.6.85).
 CD/714 (14.7.86).
 CD/763 (24.6.87).
 CD/862 (23.8.88).
 CD/935 (21.7.89).
 CD/1010 (26.6.90).

ON-SITE INSPECTIONS

SN: Refers to method of verification involving the presence of foreign experts at locations where controlled activity is suspected of having occurred.

Sweden, CCD/481 (26.3.76), pp. 15-16.
 UN Secretary-General CD/86 (16.4.80), pp. 36;42.
 USSR, UK, USA, CD/130 (30.7.80), pp. 4-5.
 USSR, CD/346 (16.2.83), p. 5.
 Sweden, CD/381 (14.6.83), pp. 2;8-9.
 AHWGNTB, CD/NTB/CRP.5 (6.7.83).
 Japan, CD/388 (8.7.83), p. 9.
 UK, CD/402 (1.8.83), pp. 6-7.
 AHWGNTB, CD/412 (16.8.83), p. 8.
 Norway, CD/599 (20.6.85), p. 4.
 USSR, CD/647 (17.1.86), p. 4.
 GDR, CD/746 (24.4.87), p. 4.
 Bulgaria et al., CD/756 (17.6.87), p. 5.
 GDR, CD/902 (18.3.89), pp. 2-4.
 Indonesia et al., CD/1054 (4.2.91), pp. 14-16.
 USA, CD/1066 (8.3.91).
 USA, CD/1067 (8.3.91).
 Australia, New Zealand, CD/1081 (11.6.91), pp. 4-5.
 Sweden, CD/1089 (25.7.91), pp. 16.20.
 Australia, CD/NTB/WP.15 (26.2.93), p. 3.

France, CD/NTB/WP.17 (28.5.93), p. 12.
 Sweden, CD/1202 (3.6.93), pp. 4-5.
 Russian Federation, CD/NTB/WP.21 (11.6.93), p. 4.
 France, CD/NTB/WP.23 (25.6.93), p.7.
 Australia, CD/NTB/WP.28 (24.8.93), pp. 1-5.
 Australia, CD/NTB/WP.29 (24.8.93), p. 4.
 UK, CD/NTB/WP.31 (24.8.93).
 Sweden, CD/1232 (6.12.93), pp. 8;22;23;24;33-37.

SEE ALSO: AIRBORNE IMAGING;
 GEO-CHEMICAL SAMPLING;
 ELECTRICAL RESISTIVITY MAPPING.

PARTIAL TEST BAN TREATY AMENDMENT CONFERENCE

SN: Refers to proposals to amend the PTBT to encompass all testing environments.

UNGA, RES/42/26 B (30.11.87).
 Indonesia et al., CD/852 (5.8.88).
 Venezuela, CD/860 (22.8.88).
 UNGA, RES/43/63 B (7.12.88).
 UNGA, RES/44/106 (8.1.90).
 UNGA, RES/45/50 (13.12.90).
 Indonesia et al., CD/1054 (4.2.91).
 AHCNTB, CD/NTB/CRP.11/Rev.1 (16.5.91), pp. 6-5.
 UNGA, RES/46/28 (20.12.91).
 Indonesia, CD/1210 (4.8.93).

SEE ALSO: DRAFT CTB TREATIES AND RELATED DOCUMENTS.

PEACEFUL NUCLEAR EXPLOSIONS (PNEs)

SN: Refers to the usage of nuclear explosive devices for civilian engineering an/or industrial applications.

Sweden, CCD/481 (26.3.76) pp. 7-8.
 UK, CCD/492 (21.4.76), pp. 4-5.
 New Zealand, CCD/536 (22.7.77), pp. 4-5.
 UN Secretary-General, CD/86 (16.4.80), pp. 37-39.
 USSR, UK, USA, CD/130 (30.7.80), p. 3.
 Group of 21, CD/181 (24.4.81), p. 2.
 UK, CD/383 (17.6.83).
 AHWGNTB, CD/412 (16.8.83), pp. 4-5.
 AHCNTB, CD/NTB/CRP.12 (31.5.91).
 AHCNTB, CD/NTB/CRP.13 (13.6.91), p. 3.
 Australia, CD/NTB/WP.30 (24.8.93), p. 2.

SEE ALSO: EVASION.

PERU

CD/448/App.3 (9.3.84), p. 6.
 CD/448/App.5 (9.3.84), p. 12.

ROMANIA

CD/448/App.2 (9.3.84), p. 2.
 CD/448/App.3 (9.3.84), p. 6.

SATELLITE IMAGING

SN: Refers to the creation of photographic representations of objects, activities and/or terrain through sensors deployed onboard a satellite.

Sweden, CCD/481 (26.3.76), pp. 15-17.
 GDR, CD/746 (24.4.87), pp. 2-3.
 GDR, CD/902 (16.3.89), pp. 2-4.
 Australia, New Zealand, CD/1081 (11.6.91), p. 4.
 Sweden, CD/1089 (25.7.91), p. 16.
 Australia, CD/NTB/WP.15 (26.2.93), p. 4.
 Canada, CD/1199 (26.5.93), pp. 3-5; 7-20.
 France, CD/NTB/WP.17 (28.5.93), pp. 10-11.
 Japan, CD/NTB/WP.20 (11.6.93).
 France, CD/NTB/WP.23 (25.6.93), pp. 5-6;11.
 Australia, CD/NTB/WP.27 (24.8.93).
 Australia, CD/NTB/WP.29 (24.8.94), p. 4.
 Sweden, CD/1232 (6.12.93), pp. 22;23;32.

SEE ALSO: AIRBORNE IMAGING;
 NATIONAL TECHNICAL MEANS.

SECRETARIAT, CTBT

SN: Refers to the technical and administrative support body of the proposed Consultative Committee.

Sweden, CD/381 (14.6.83), pp. 2;12.
 AHWGNTB, CD/NTB/CRP.4 (22.6.83).
 FRG, CD/612 (10.7.85), pp. 9;13.

SEE ALSO: COMMITTEE OF EXPERTS;
 CONSULTATIVE COMMITTEE;
 INTERNATIONAL ATOMIC ENERGY AGENCY.

SEISMIC ARRAY STATIONS

SN: Refers to seismic observatories outfitted with an ordered arrangement of seismometers as well as data recorders, timing devices and data transmission systems.

UK, CCD/486 and Corr.1 (12.4.76), pp. 4-5.
 UK, CCD/487 and Corr.1 (12.4.76), pp. 1-2.
 Canada, CCD/490 (20.4.76), pp. 3-5.
 USA, CCD/491 (20.4.76), pp. 7-11.
 Finland, CCD/509 (28.7.76), pp. 4-5.
 Japan, CCD/524 (24.2.77).
 Japan, CCD/540 (3.8.77).
 AHGSE, CD/43/Add.1 (25.7.79), pp. 53-58.
 Japan, CD/390 (8.7.83).
 Norway, CD/395 (19.7.83), pp. 2-3.
 Norway, CD/507 (15.6.84).
 Norway, CD/599 (20.6.85).
 Norway, CD/714 (14.7.86).
 Norway, CD/763 (24.6.87).
 Norway, CD/862 (23.8.88).
 Norway, CD/935 (21.7.89), p. 2.
 Norway, CD/1010 (26.6.90), pp. 2-9.

SEE ALSO: NATIONAL TECHNICAL MEANS;
 STATIONS, SEISMOGRAPH.

SEISMIC DATA

SN: Refers to a record of elastic waveforms generated by a seismic event.

UK, CCD/487 and Corr.1 (12.4.76).
 UK, CCD/488 (12.4.76).
 USA, CCD/491 (20.4.76), pp. 7-9.
 AHGSE, CCD/588 (9.3.78), pp. 12-22;49-56.
 Netherlands, CD/7 (1.3.79).
 AHGSE, CD/43 (25.7.79), pp. 11-46.
 AHGSE, CD/43/Add.1 (25.7.79), pp. 2-59.
 Sweden, CD/45 (30.7.79), pp. 4-14.
 AHGSE, CD/448 (9.3.84), pp. 9-22;34-35.
 AHGSE, CD/720 (31.7.86), pp. 13-20;50.
 USSR, CD/724 (15.8.86).
 Canada, CD/753 (28.4.87).

STATIONS, SEISMOGRAPH

SN: Refers to seismic observatories equipped with seismometer(s), data recorders, timing devices and data transmission systems.

USA, CCD/491 (20.4.76), pp. 4-7.
 AHGSE, CCD/558 (9.3.78), pp. 23-35.
 AHGSE, CD/43/Add.1 (25.7.79), pp. 53-58.

AHGSE, CD/448 (9.3.84), pp. 6-8;33.
 FRG, CD/624 (26.7.85), pp. 22-24.
 Sweden, CD/712 (14.7.86), pp. 11-13.
 AHGSE, CD/720 (31.7.86), pp. 8-12;49.
 AHGSE, CD/903 (17.3.89), pp. 5-6;10-12.
 AHGSE, CD/1097 (9.8.91), pp. 6-7.
 AHGSE, CD/1144 (13.3.92), pp. 5-9.
 AHGSE, CD/1211 (10.8.93), pp. 5;6-7;10.

SEE ALSO: NATIONAL TECHNICAL MEANS;
 SEISMIC ARRAY STATIONS.

SWEDEN

CCD/481 (26.3.76), p. 8.
 CD/448/App.2 (9.3.84), pp. 2;4;5;7;8-9;11;13;20.
 CD/448/App.3 (9.3.84), pp. 6;10.
 CD/448/App.4 (9.3.84), pp. 4;11.
 CD/448/App.5 (9.3.84), p. 12.

Technical Expert Group. USE CONSULTATIVE COMMITTEE.

TRANSPARENCY MEASURES

SN: Refers to a method of enhancing the visibility of certain national undertakings through the provision of written notifications and explanations as well as through voluntary invitations for States Parties to a CTB treaty to conduct on-site observations within certain areas under national control.

AHCNTB, CD/NTB/CRP.11/Rev.1 (16.5.91), p. 7.
 Australia, CD/NTB/WP.15 (26.2.93), p. 4.
 Australia, CD/NTB/WP.28 (24.8.93), pp. 5-8.

SEE ALSO: INFORMATION EXCHANGE.

UNION OF SOVIET SOCIALIST REPUBLICS

CCD/558/Add.1 (9.3.78), pp. 96-108.
 CD/448/App.2 (9.3.84), pp. 3;4;7;8;9;12;13;15;18;20.
 CD/448/App.3 (9.3.84), pp. 6-7;10;13.
 CD/448/App.4 (9.3.84), pp. 4;9.
 CD/448/App.5 (9.3.84), p. 13.
 (as Russian Federation) CD/NTB/WP.21 (11.6.93).

UNITED KINGDOM

CCD/486 and Corr.1 (12.4.76).
 CD/448/App.2 (9.3.84), pp. 3;5;7;9;12;14;15;18;20.
 CD/448/App.3 (9.3.84), pp. 7;10;13.
 CD/448/App.4 (9.3.84), p. 9.
 CD/448/App.5 (9.3.84), pp. 13-14.
 CD/448/App.6 (9.3.84), p. 5.

UNITED STATES

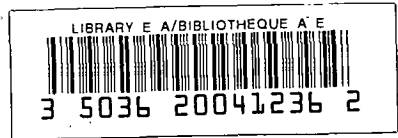
CCD/491 (20.4.76).
 CD/448/App.2 (9.3.84), pp. 3;5;7;9;11;12;14;15;18;20.
 CD/448/App.3 (9.3.84), pp. 7-8;10-11.
 CD/448/App.4 (9.3.84), pp. 4;9-10;11.
 CD/448/App.5 (9.3.84), p. 14.

WORLD METEOROLOGICAL ORGANIZATION/GLOBAL TELECOMMUNICATIONS SYSTEM (WMO/GTS)

SN: Refers to the usage of a world-wide telex communications network of World Meteorological Organization to exchange and distribute seismic data between National Data Centres and International Data Centre.

AHGSE, CCD/558 (9.3.78), pp. 49-51.
 AHGSE, CD/43/Add.1 (25.7.79), pp. 31-47.
 Japan, CD/319 (23.8.82).
 Sweden, CD/381 (24.6.83), pp. 6;11.
 AHGSE, CD/448 (9.3.84), pp. 13-17;34.
 AHGSE, CD/448/App.5 (9.3.84), pp. 2-5.
 AHGSE, CD/720 (31.7.86), pp. 21-26;50-51.
 AHGSE, CD/903 (17.3.89), pp. 8-9;24-27.
 AHGSE, CD/1144 (13.3.92), pp. 25-29.

SEE ALSO: INTERNATIONAL SEISMIC MONITORING SYSTEM COMMUNICATIONS: NDC - IDC.



DOCS

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Conference on Disarmament

Nuclear Test Ban Comprehensive

Nuclear Test Ban Treaty (CTBT) :

verification subject index to

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