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A review of Canada's arms control and disarmament activities

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Modernized Yellowknife Array Opened

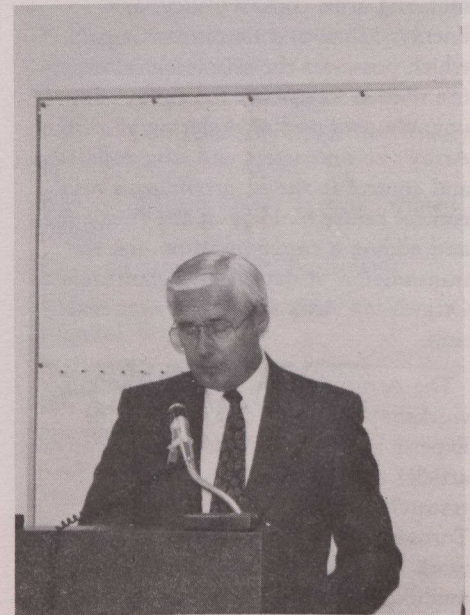
On September 11, 1989, the Honourable Jake Epp, Minister of Energy, Mines and Resources, officially opened the newly-modernized Yellowknife Geophysical Observatory, commonly known as the Yellowknife Seismological Array.

Considered among the most advanced facilities of its type in the world, the refurbished Array can monitor seismic events occurring up to 10,000 km away — a range that includes all known nuclear test sites, as well as most of the earth's active earthquake zones. The Array thus adds considerably to Canada's ability to monitor compliance with a comprehensive nuclear test ban (CTB) treaty.

The achievement of a negotiated, effective ban on nuclear testing in all environments for all time has long been a major objective of Canadian arms control and disarmament policy. Toward this end, since the late 1950s Canada has worked with other countries to develop a reliable means of verifying compliance with international agreements banning nuclear explosions.

In 1962, the British Ministry of Defence approached the Canadian Defence Research Board about the possibility of locating a seismic array in Canada. An agreement was reached whereby the UK would supply equipment while Canada would provide a site for the facility as well as the personnel to operate it. The Yellowknife area was selected for the site because of its position with respect to nuclear test sites, its remoteness from coastlines, urban areas and other sources of seismic noise, its good communication facilities and its location on the stable geological platform of the Canadian Shield.

The Array was completed in late 1962. Since that time, Canadian scientists have



The Honourable Jake Epp, Minister of Energy, Mines and Resources, opens the modernized Yellowknife Seismological Array.

used it to undertake research into the detection and identification of earthquakes and underground nuclear explosions.

In contrast to a standard seismograph station, which houses one or more seismic detectors (seismometers) at a single location, an array consists of a number of seismometers spread across an area. Computer processing of the recorded data allows the array to be steered like an antenna, not only to enhance detection of seismic signals, but also to estimate independently the locations from which they came.

The Yellowknife Array is composed of 19 seismometers, laid out in the form of a cross and installed in steel vaults anchored in rock, with a distance of 2.5 km between seismometers. Information collected on a seismic occurrence is

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transmitted to Energy, Mines and Resources Canada laboratories in Ottawa, where scientists analyze the data, locate the event's epicentre and determine whether it was caused by an earthquake or a nuclear blast.

The \$3.5 million, three-year upgrade program was undertaken jointly by External Affairs and International Trade Canada, which is responsible for formulating arms control policy, and Energy, Mines and Resources Canada, which possesses the seismological expertise needed to operate the Array. The upgrade consisted of replacing all of the Array's seismometers and data collection and control facilities, providing a new control centre building at the Array site, and adding a communication link for transmission of data from Yellowknife to Ottawa via Anik satellite in near real time.

The Array opening coincided with a workshop of the Group of Scientific Experts in Yellowknife (see accompanying article) and provided a forum for researchers from the University of Toronto to unveil the results of their work on regional seismic verification methodologies, performed under contract with Canada's Verification Research Program. ■

Group of Scientific Experts Meets in Yellowknife



Participants at the Yellowknife workshop. The all-terrain vehicle is the only means of ground transportation for servicing the Array stations.

Thirty members of the Group of Scientific Experts (GSE) associated with the Conference on Disarmament in Geneva met in Yellowknife September 11-15, 1989, to attend the opening of and inspect the modernized Yellowknife Seismological Array, to discuss issues related to seismic verification and to review plans for an international seismic data exchange experiment, scheduled to begin in January 1990.

The GSE, whose full title is the Ad Hoc Group of Scientific Experts to Consider International Cooperative Measures to Detect and Identify Seismic Events, was established by the Conference on Disarmament (CD) in July 1976. It grew out of earlier, informal meetings between the CD and seismological experts from various countries. The GSE is open to government-appointed experts from all member countries of the CD and, by invitation, to experts from non-member countries. Currently there are participants in the GSE from 27 countries, not all of whom attend regularly. The GSE meets in Geneva twice a year.

Since 1976, the GSE has been defining the technical specifications of a global system for seismic data exchange that would assist all participating countries in their national monitoring requirements for a comprehensive nuclear test ban treaty. The GSE is not designing or developing an international system to monitor compliance with a treaty per se. Rather, its objective is to facilitate verification by any interested state through a cooperative exchange of relevant seismic data.

From October 15 to December 15, 1984, the GSE conducted a data exchange experiment that focused on the exchange and processing of seismic "parameter" data. Parameter data are those data (such as the arrival times and amplitudes of seismic waves) that can readily be extracted from seismic recordings at a seismograph station. Since the volume of these data is not large, they can be transmitted relatively easily and rapidly to other locations around the globe using, for example, telex-based communications systems. Thirty-seven countries participated in the 1984 test, offering data from a total of 75 seismograph stations.

Verification: What is it?

"Verification is the establishment of truth or correctness of (something), by examination or demonstration." [*Concise Oxford Dictionary*]

Countries are unlikely to agree to sign treaties that affect their national security unless they have adequate means of assuring that other signatories will, in fact, be living up to the terms of the agreement. Verification is the means by which such assurance is gained. Whether it is through the use of consultative mechanisms, photo-reconnaissance satellites or on-site inspections, the ability to agree upon an effective system of verification can mean the difference between success and failure in the negotiation of an arms control agreement. ■

Since 1988, the GSE has been refining the technical specifications of the global system to take advantage of seismic "waveform" data. Waveform data are the original recordings made at a seismograph station of its detected seismic events, which could be earthquakes or nuclear explosions. They are more voluminous than parameter data, thus their transmission to other locations places greater demands on the communications system used. Nonetheless, if waveform data for detected seismic events could be transmitted rapidly to International Data Centres (IDCs) for processing, a much-refined record or "bulletin" of each seismic event could be produced.

Preparations for global data exchange experiment

The experiment currently being planned by the GSE, called GSETT-2, is intended to demonstrate the improvements to the global seismic data exchange system that would come about from the exchange and processing of waveform data. The chief Canadian delegate to the GSE, Dr. Peter Basham, is the overall coordinator of the experiment.

GSETT-2 is being conducted in four phases. Phase 1, which began in August 1988, is a preparatory phase during which the GSE is refining the procedures to be used for the experiment; participating countries are identifying and upgrading appropriate seismograph stations, national data processing facilities and data communications channels; and the four IDC countries (Australia, Sweden, the USA and the USSR) are establishing appropriate computer and inter-IDC communication facilities.

Phase 2, scheduled to begin in January 1990, will involve the exchange and processing of seismic data — both parameter and waveform — one day per week. Outstanding problems will be addressed during the March 1990 GSE session and Phase 2 continued as necessary up to the July/August 1990 GSE session.

Phase 3, which will involve data exchange and processing seven days per

week, is tentatively scheduled for September to December 1990. Phase 4 will involve an evaluation of GSETT-2 and preparation of a report for the Conference on Disarmament.

By the end of August 1989, only 21 countries offering data from 41 seismograph stations had indicated their intention to participate in GSETT-2. The GSE does not consider this a sufficient test of the envisaged global system, particularly because there will be no participating stations in Central and South America, Africa and parts of Asia. Canadian contributions will include seismic data from the Yellowknife Array.

The GSE workshop in Yellowknife was co-sponsored and co-hosted by External Affairs and International Trade Canada and Energy, Mines and Resources Canada. □

Countries Represented on the GSE

Argentina*
Australia*
Austria
Belgium*
Bulgaria*
Canada*
China*
Czechoslovakia*
Denmark
Egypt*
Federal Republic of Germany*
Finland
German Democratic Republic*
Hungary*
Iran*
Italy*
Japan*
Netherlands*
New Zealand
Norway
Poland*
Spain
Sweden*
Switzerland
United Kingdom*
USA*
USSR*

* indicates member of the CD □

Acronyms Used in this Volume

ATC — Armoured Troop Carrier
ATTU — Atlantic to the Urals
AVLB — Armoured Vehicle Launched Assault Bridge
CD — Conference on Disarmament
CFE — Negotiation on Conventional Armed Forces in Europe
CSCE — Conference on Security and Cooperation in Europe
CTB — Comprehensive Test Ban
CTBT — Comprehensive Test Ban Treaty
CW — Chemical Weapons
DRES — Defence Research Establishment Suffield
GSE — Group of Scientific Experts
GSETT — Global Seismic Exchange Technical Test
IDC — International Data Centre
NATO — North Atlantic Treaty Organization
NGOs — Non-Governmental Organizations
NPT — Non-Proliferation Treaty
PTBT — Partial Test Ban Treaty
UN — United Nations
UNDC — United Nations Disarmament Commission
UNGA — United Nations General Assembly
UNHCR — United Nations High Commissioner for Refugees
UNICEF — United Nations Children's Fund
UNSSOD — United Nations Special Session on Disarmament □

For Further Information

"Seismic Verification," Arms Control and Disarmament Division, External Affairs and International Trade Canada, Ottawa, 1986.

"Verification Research: Canada's Verification Research Program," Arms Control and Disarmament Division, External Affairs and International Trade Canada, Ottawa, 1987.

"Yellowknife Seismological Array," Energy, Mines and Resources Canada, Ottawa, 1989. □

Canada's Verification Research Program

The verification of compliance with arms control and disarmament agreements is a major focus of Canada's efforts in the multilateral arms control and disarmament field. The decision to devote Canadian resources to this issue was made early in the 1980s, when verification was a constant source of disagreement and there was a clear need for innovative approaches to the question.

An initial, modest, cooperative program was developed involving the Operational Research and Analysis Establishment of the Department of National Defence and the Arms Control and Disarmament Division of External Affairs and International Trade Canada. The aim of this program was to study arms control verification in a general, conceptual manner as well as to support specific negotiations. It was an attempt to introduce some gentle leadership and coordination into international discussions, while at the same time leaving the field open to contributions from other nations in areas of their expertise.

On June 18, 1982, during a speech to the second United Nations Special Session on Disarmament (UNSSOD II), the Right Honourable Pierre Elliott Trudeau, then Prime Minister of Canada, identified verification as one of the arms control and disarmament issues that Canada considered to be of greatest importance. He pledged the Canadian government to substantially increase its research on verification.

On February 20, 1984, formal approval was given for the establishment of the Verification Research Unit within the Arms Control and Disarmament Division of External Affairs and International Trade Canada. This permitted the Verification Research Program (first funded in October 1983) to begin its operations.

The general objective of the Verification Research Program is to contribute to the process of achieving verifiable arms

control and disarmament agreements that will increase the security of Canada and its allies. Specifically, the Program seeks to do the following:

- analyze verification issues;
- assess the implications and adequacy of verification proposals;
- investigate ways of improving verification techniques and develop new approaches;
- foster Canadian expertise and capabilities in verification among the academic, commercial and government sectors; and
- contribute to improved understanding of verification issues.

Innovative in concept and focused on the multilateral process in application, this unique Program is currently funded at approximately \$1 million per year. It provides a natural framework within which Canadian expertise from government, the business sector and the academic community can be combined to address questions of arms control verification.

Unique program makes Canada verification leader

The results of the work of the Verification Research Unit, and of researchers under contract with the Verification Research Program, are published and distributed widely within Canada and abroad. In many cases, these publications have become standard reference material. Thanks to the Program, Canada is involved in verification discussions and activities across a wide range of arms control and disarmament issues.

Canada is currently playing a key role in sensitive discussions within NATO and at the negotiations in Vienna with the Warsaw Pact regarding verification of an agreement to reduce conventional forces in Europe. Canada will undoubtedly make a significant contribution to NATO verification operations once an agreement is in place.

Canada is also involved in scientific discussions concerning an international seismic data exchange to verify a ban on underground nuclear explosions. A Canadian scientist has been chosen to be coordinator of the second Global Seismic Exchange Technical Test (GSETT-2), to be conducted in 1990.

Work on CFE, CTB, Outer Space, Open Skies and CW verification

On outer space arms control issues, Canada has explored the use of space-to-space remote sensing for verification (the PAXSAT "A" feasibility study), as well as other methods.

The Program has also conducted background research with respect to the use of aerial inspections for verification, and in the context of the "Open Skies" initiative.

Canada has long been active on issues related to the verification of an eventual Chemical Weapons Convention. Technical papers have been provided to negotiators to clarify such matters as the destruction of chemical warfare agents, procedures for verification of allegations of use of chemical weapons (including novel agents), and the categorization of chemicals produced for commercial purposes but also of concern to the Convention. In addition, Canada has examined organizational matters related to the role and functions of the national authority and international authority to verify the Convention. In all cases, work continues and is shared with others as appropriate.

Since its creation, the Verification Research Program has enabled Canada to make a significant contribution to discussions related to multilateral verification. While the Program has achieved a great deal, much remains to be done, particularly with respect to the detailed work of designing verification provisions for specific agreements. Canada will continue to play a key role in promoting solutions to verification problems. □

Canada Hosts Workshop of UN Verification Experts



UN Group of Governmental Experts on Verification at the Montreal workshop.

The UN Group of Governmental Experts on Verification gathered for a workshop in Montreal July 24-25, 1989. This Group of Experts, which was set up as a result of United Nations General Assembly Resolution 43/81(b) of December 7, 1988, is not to be confused with the Group of Scientific Experts (GSE) associated with the Conference on Disarmament. In Resolution 43/81(b), which was in large part a Canadian initiative, the UN Secretary-General was requested to undertake, with the assistance of a group of qualified governmental experts, an in-depth study of the role of the United Nations in the field of verification. In particular, the study is to:

- identify and review existing UN activities in the verification of arms control and disarmament agreements;
- assess the need for improvements in existing activities, and explore and identify possible additional activities, taking into account organizational, technical, operational, legal and financial aspects; and

— provide specific recommendations for future UN action in this context.

Twenty countries were selected to provide experts for the study, including Canada, the USA and the USSR. The experts act in their own capacities, not as representatives of their respective governments. The UN Group of Experts held its first meeting in February 1989 and chose as its Chairman Mr. Fred Bild, who is Assistant Deputy Minister of the Political and International Security Branch of External Affairs and International Trade Canada. This choice reflected Canada's leadership role and high international profile on the issue of verification.

Group is studying the role of the UN in verification

The objectives of the Montreal workshop were to provide, in an informal atmosphere, an opportunity for the Group to explore legal and technical issues relating to verification and to share with them some of the results of relevant Canadian verification research. The

Group attended briefings by Canadian experts on legal aspects of the role of the UN in verification (Dr. Howard Mann and Dr. Lucy Stojak) and on technical aspects of remote sensing from space (Dr. F.J.F. Osborne). In addition, the Group visited Spar Aerospace Ltd.'s satellite production facilities at Ste. Anne-Bellevue, Quebec.

The workshop was organized by McGill University's Centre for Research of Air and Space Law at the request of External Affairs and International Trade Canada. It was an excellent example of cooperation among Canada's governmental, academic and private sectors on the subject of arms control verification, and represented a fruition of the continuing efforts of the Government's Verification Research Program to foster expertise in verification in all three sectors.

After the successful conclusion of the workshop, the Group proceeded to New York to complete its second session. It is scheduled to hold two further sessions before submitting its report to the UN General Assembly in 1990. □

Soviets Visit Defence Research Establishment Suffield

A delegation of 10 Soviet scientists and military officers visited Defence Research Establishment Suffield (DRES) July 17-19, 1989, to observe the destruction of chemical agents and share information about technical issues and environmental safety related to the destruction. The delegation was headed by Mr. Sergei Batsanov, the USSR's representative to the Conference on Disarmament in Geneva. This was the first Soviet visit to a Canadian military base since the Second World War.

Since 1941 Suffield, located in Alberta about 275 km southeast of Calgary, has been the site of a research program into defence against chemical and biological weapons. During the past 20 years, field testing with chemical agents has been limited to the small quantities required for testing defensive equipment and training Canadian Forces personnel in defensive measures.

In the early 1970s, a clean-up of the chemical munitions and agents remaining on the base as part of wartime reserves was authorized. Destruction began of approximately 700 tons of mustard gas stored in tanks, as well as of small quantities of other chemical warfare agents. Most of this material had been in storage since the Second World War. Unfortunately, a breakdown of equipment and conflicting priorities for resources prevented completion of the operation. In early 1988, the then Minister of National Defence, Mr. Perrin Beatty, became aware of some 16 tons of agents and 150 tons of contaminated material remaining to be disposed of. A report commissioned by Mr. Beatty and authored by Mr. William Barton, then Chairman of the Board of Directors of the Canadian Institute for International Peace and Security, discussed the activities at DRES in the area of chemical and biological defences, and noted the material still awaiting destruction.

With the presentation of the Barton Report at a press conference on January 25, 1989, Mr. Beatty announced that immediate action would be taken to complete the clean-up. At the same time, he issued an invitation to Soviet officials to visit DRES and observe the chemical agent destruction process.

During the July visit, the Soviet delegation received briefings on:

- the DRES Experimental Proving Ground, where the chemical agent disposal and storage sites are located;
- Project Swiftsure, the project to dispose of chemical and hazardous wastes from the Experimental Proving Ground;
- decontamination research and techniques;
- recent developments in the therapy and prophylaxis of organophosphate poisoning; and
- techniques for the verification of chemical agents.

Opportunity for dialogue on concerns relevant to CW Convention

The delegation toured the DRES facilities and observed the techniques and equipment used for the destruction of chemical agents. The Soviets expressed particular interest in techniques of environmental protection and personnel safety during the destruction process. The USSR was then completing construction of a large plant at Chapayevsk in the Shikany military area, about 1,000 km east of Moscow, to destroy an estimated 50,000 tons of chemical agents. Because of environmental safety concerns, it has since announced that the facility will not be used for chemical weapon destruction but rather for training in defensive measures against chemical weapons.

The visit was hosted by the Department of National Defence. It concluded with consultations in Ottawa on July 20 between the Soviet delegation and officials of External Affairs and International Trade Canada.

Destruction process at DRES expected to be completed by end of 1991

The visit provided considerable opportunity for officials from both countries to pursue an open dialogue on technical and other matters, including local safety and environmental concerns, of relevance to the conclusion and implementation of a Chemical Weapons Convention. Canada participates fully in every aspect of the negotiations at the Conference on Disarmament in Geneva on reaching a global, comprehensive and effectively verifiable convention banning chemical weapons. The Soviet visit to DRES was intended to contribute to an increased level of openness and exchange of technical information which, it is hoped, will expedite these negotiations.

It should be noted that past Canadian statements relating to the non-possession of chemical weapons were made at a time when "chemical weapons" were generally understood to mean usable chemical-filled munitions. Chemical agents then existing at DRES were neither stored in usable munitions nor were they part of an operational military capability. To date at DRES, the remaining nerve agent containers have already been opened and the contents destroyed. The destruction of remaining mustard gas and contaminated material must await the construction of a new incinerator. The destruction process is expected to be completed by the end of 1991.

Copies of the Barton Report can be obtained by writing National Defence Headquarters (Director General Information), 101 Colonel By Drive, Ottawa, Ontario, K1A 0K2, or by telephoning (613) 995-2534. □

Peggy Mason Appointed Ambassador for Disarmament

The Secretary of State for External Affairs, the Right Honourable Joe Clark, announced on August 28, 1989 the appointment of Ms. Margaret (Peggy) J. Mason as Canada's Ambassador for Disarmament.

Ms. Mason replaces Mr. Douglas Roche, whose completion of term was announced in June. Mr. Roche, who had held the post since October 1984, is presently a visiting professor in the Department of Political Science at the University of Alberta.

The Ambassador for Disarmament represents Canada at international meetings concerned with arms control and disarmament, in particular at the First Committee of the United Nations General Assembly and at the United Nations Disarmament Commission, both in New York. The Ambassador is also the Government's principal point of contact for Canadian non-governmental

organizations and persons interested in arms control and disarmament. As such, she will undertake speaking engagements across the country to discuss Canada's arms control and disarmament policies and the work done in the international forums where she represents Canada. The Ambassador acts as a Special Advisor to the Secretary of State for External Affairs on matters related to arms control and disarmament. In that capacity, she seeks to ensure coherence in Canadian policy as it relates to UN disarmament questions, disarmament and economic development, non-proliferation, the export of military equipment, confidence-building measures, conventional force reductions and limitations on strategic arms.

Born in Windsor, Nova Scotia, Ms. Mason holds a Bachelor of Arts (Honours) degree and a Bachelor of Laws degree from the University of Ottawa. She was admitted to the Ontario Bar in

1977 and practiced law in Ottawa until 1980, at which time she became Legal Advisor and Policy Analyst for the Canadian Advisory Council on the Status of Women. From 1981 to 1984, Ms. Mason served as Policy Advisor to the Right Honourable Joe Clark and to the Honourable Erik Nielsen with responsibilities in the areas of status of women, arms control policy and constitutional and legal issues.

From September 1984 until her appointment as Ambassador for Disarmament, Ms. Mason acted as Policy Advisor to the Right Honourable Joe Clark in his capacity as Secretary of State for External Affairs. She provided policy analysis and advice on issues in the following areas: arms control, defence and international security, East-West relations and East-West human rights. She also dealt with international equality, nuclear energy and selected legal issues.

Ms. Mason is married and has one son. □

An Interview with Peggy Mason

The Editor had a chance to speak with Canada's new Ambassador for Disarmament, Peggy Mason, prior to Ms. Mason's departure for New York to head the Canadian delegation to the First Committee of the United Nations, which opened October 16, 1989. What follows are excerpts from that interview.

Ed = Editor; PM = Peggy Mason

Ed: Is this a unique position? Is Canada the only country that has an Ambassador for Disarmament?

PM: Canada isn't the only country, but it is one of a small number of countries that has an Ambassador for Disarmament that specifically represents the country at the First Committee in New York. For most countries, the same ambassador who represents the country in the fall at the First Committee also represents the country at the Conference on Disarmament in Geneva, which sits in February-March and also in the summer months, which means they're out of their country



Ms. Peggy Mason, Ambassador for Disarmament.

for most of the year. In the Canadian case, it was deliberately decided that the Ambassador for Disarmament should be based in Canada and be available to meet

with the Canadian public and interested NGOs [non-governmental organizations]. The Canadian Ambassador for Disarmament position also has a third role, which is that of advisor to the Minister on a range of arms control and disarmament issues, and that function as well requires the Ambassador being in Ottawa for some period of time.

[Editor's note: Mr. de Montigny Marchand is Canada's Ambassador to the Office of the United Nations in Geneva and to the Conference on Disarmament.]

Ed: Of these three components to your position — representing Canada in disarmament discussions at the UN, liaison with the public on arms control and disarmament issues, and advising the Minister — which interests you the most?

PM: I think that the combination of all three is very important. Liaison with the public — finding out what their concerns are and discussing with them the government's policies and priorities — would not be nearly as effective if I were not also plugged into some forum, such as the UN, so that I can speak in light of

the actual experience that I have representing Canada on these issues with other countries. I would also be much less effective, talking to groups and so on, if I did not have a role in the development of policy. So the three aspects of the job complement each other very well.

Because there are such possibilities for progress in arms control and disarmament now, it seems to me critically important that we maximize our opportunities and make as much progress as we can. The three aspects of the job lead to the possibility that this position can be a catalyst for that kind of progress.

Ed: Is arms control and disarmament a new field for you?

PM: My first experience in arms control and disarmament was attending the Stockholm Conference in 1984. This was part of the overall CSCE [Conference on Security and Cooperation in Europe] process working on a range of issues, but specifically on trying to develop confidence-building measures between East and West at a time when there was not much progress on arms control and disarmament questions. At the time I was working with Mr. Clark, who had been asked by the then leader of the official opposition, Mr. Mulroney, to do a sort of shadowing of the Trudeau peace initiative. As part of that, Mr. Clark was sent to the Stockholm Conference and, as his advisor, I found myself suddenly literally plunged into arms control and disarmament issues. When Mr. Clark became Foreign Minister, I had the opportunity to continue working in his office and wanted to continue working on arms control and disarmament questions. So my background and training were certainly not in arms control and disarmament, but I've been working in the area now for five and a half years.

Ed: You're about to head off to the First Committee. What are some of the major issues Canada will be dealing with there?

PM: The First Committee, of course, is not a negotiating forum. It is a place where all of the member countries of the UN can speak on arms control and disarmament questions. The goal is to try to develop some common ground, some consensus, so that more progress can be

made in the actual negotiating forums. Canada will be focusing in particular on a resolution that we co-sponsor with Poland on the proposed global convention banning chemical weapons. It will take into account the progress that's been made bilaterally by the United States and the Soviet Union and also multilaterally in the chemical weapon negotiations at the Conference on Disarmament. There have been a number of conferences — the Paris Conference [in January 1989], for example — trying to inject political will into the negotiating process. The Canberra Conference was recently held in Australia in an attempt to get the chemical industry more involved, because they're a vital part of any successful chemical weapons convention. So the resolution will take note of the progress that's been made, but will also try to seek to ensure that the international community strongly supports the need for such a treaty.

Canada can have greatest impact in conventional negotiations

In general, Canada will be bringing a kind of challenge to the First Committee. A great deal of arms control progress is being made bilaterally between the superpowers and also between the NATO and Warsaw Pact countries. I think one can fairly say that the multilateral side is not keeping pace. What Canada will try to do — as a great believer in the multilateral process and as a country that has never engaged in UN-bashing but has always sought to make the UN more effective — is encourage the First Committee to meet that challenge and really move the multilateral process forward. Frankly, it's a wonderful position to be in: that there has been sufficient progress bilaterally that multilateral institutions have to catch up.

Ed: If one backs away from the First Committee and looks at the whole range of arms control and disarmament issues and negotiations that Canada is involved in, which do you think are the most important? Where should we be concentrating our energy?

PM: You can have an interesting debate about which are more important in a

global sense: the negotiations between the superpowers to radically reduce nuclear weapons or the conventional arms reduction talks between the members of NATO and the Warsaw Pact. But I think when you get to the other question, which is where should Canada be concentrating, clearly the conventional negotiation is where we can have the greatest impact because, quite simply, we are a part of that negotiation. Canada has been a leader in developing the verification package, which is essential to the overall agreement, and it's also been a leader in bringing along all of the various countries on the NATO side to agree to that package. Canada has to, and is, playing an important role there. It's harder on the strategic side because we're not a party to the negotiation. We have to confine ourselves to influencing the superpowers to adopt positions that are in our best interests, so that means bilateral representations and so on. From the public's point of view it's difficult, because bilateral consultations, in order to be effective, are generally confidential. We're not standing on the street corner shouting.

Ed: Do you plan to become personally involved with some of these issues?

PM: I've already been in Geneva for a preparatory meeting for the NPT [Non-Proliferation Treaty] Review Conference. After the First Committee is over, I hope to have the opportunity to visit Vienna, where the two conventional negotiations are going on, and to engage in some other consultations as well. That should give me a better sense of where I can have the most impact. At this stage there's a lot to deal with, so I still don't have a final sense of where the most productive focus will be. I think that the two conventional negotiations and the NPT have clearly got to be important areas of concentration.

Ed: How about on the public liaison side of your job? Do you have anything in particular planned?

PM: One of the first things I did as Ambassador for Disarmament was hold a meeting of the Steering Committee of the Consultative Group on Disarmament and Arms Control Affairs. The purpose was partly to get acquainted, but also to plan for the next meeting of the full Consulta-

tive Group, which will take place in early January and focus on the upcoming NPT Review Conference. So that will be an important opportunity to meet with the primary advisory body to me, if you will, of the interested public. I'm also expecting to do a fair amount of meeting with and speaking to the public in the January through March period when I won't be tied up with the First Committee or other fixed-date meetings. At this stage I haven't planned a cross-country tour per se. I'd prefer to be more flexible, to look at activities such as conferences and seminars that are going on across Canada and see what I can attend. I'm also very interested in speaking to high school and university students.

Ed: Some NGOs and individuals are disappointed when they do not see their representations to the government, through the Ambassador for Disarmament, translated directly into policy. How would you respond to these concerns?

PM: I think that when there are such a range of views on such a range of issues, organizations and individuals have to accept that they are not going to see their particular agendas translated immediately into government policy. They have to bear in mind the traditional approach of the Canadian government on arms control and disarmament issues, which is a focus on practical, concrete steps such as verification research. They have to put their objectives in that context. Even if at a particular moment it appears that a policy that's being advocated by a particular organization has a majority behind it, that doesn't necessarily mean that the government will respond positively to it. As I said, there are long-standing principles the government brings to the area and, as well, because it's an aspect of security policy, the government is going to tread very carefully before it makes any changes. And of course polling often reveals conflicting values and priorities among the public on these issues, and the government has to reconcile these.

The government must be aware of the range of public opinion, of course. It's also of great benefit to the government to have a kind of public sounding board where policies that are being developed or options that are being looked at can

be tested and refined at an early stage. That's where the Consultative Group is very important.

I think that anyone who's involved in this process should not be discouraged if their goals are not immediately reflected in government policy. Their views are a vital part of the development of policy. Certainly, if a government is really getting out of touch with its public, this will catch up with it sooner or later.

Ed: It's interesting that you should mention polling because one thing polls tend to reveal is a gender gap on peace and security issues. Do you think that you will approach your position differently than your predecessor did by virtue of being a woman?

PM: That's a very interesting question and a difficult one to answer. I've seen the polling too. Over time, or at least over the last five years, there does seem to be a gender gap where, in a ranking of priorities, Canadian women rank peace and security issues higher on average than Canadian men do. That has led some women's organizations to call for more women to be involved in peace and security issues and to call on government to ensure that more women are involved. And there's no question that, at the present time, this is an area overwhelmingly dominated by men. In the First Committee, only three or four of the 150-odd countries represented there are represented by a woman, and at NATO I don't think there's ever been a permanent representative that's been a woman.

I start from the fundamental position that it will only be of benefit to international organizations to be as representative as possible of the peoples of the countries involved there. And certainly, fairly representing the gender of over half of the world's population is, for me, absolutely essential. I have a little more difficulty with the concept that our policy would necessarily be different if more women were involved. The argument I've often heard is that women are more cooperative and less competitive in their approach to issues, therefore our policy would be a less combative and a more cooperative one. That analysis might work with respect to some countries' arms control and disarmament policies,

but I think that Canada's whole approach — constructive internationalism — is essentially a policy of cooperation, of seeking consensus. In that sense, dare I suggest that we already have a feminist or a "feminized" policy? It's a terrible waste of talent and resources not to have women involved in the full range of issues, but whether or not that would mean that we would have a more peaceful policy, I'm not sure.

I have a son who's almost five years old. Obviously I'm very concerned about the world he's going to grow up in, but I would have to say that the men that I work with in arms control and disarmament in the Canadian government who also have children are equally concerned that their sons and daughters not face nuclear annihilation. □

NPT Review Conference Preparatory Committee Meets

The second Preparatory Committee for the Fourth Review Conference of the Treaty on the Non-Proliferation of Nuclear Weapons (the NPT) met in Geneva September 11-18, 1989. The Canadian delegation was led by the Ambassador for Disarmament, Ms. Peggy Mason.

The Preparatory Committee dealt briefly with administrative matters relating to the upcoming Review Conference, then reviewed 15 background documents dealing with disarmament and nuclear matters prepared for the Review Conference by the Secretariat of the United Nations (10 documents), the International Atomic Energy Agency (3 documents), the Agency for the Prohibition of Nuclear Weapons in Latin America (1) and the South Pacific Forum (1).

The first Preparatory Committee met May 1-5, 1989 in New York. The third, and final, Preparatory Committee will meet in Geneva April 23 to May 4, 1990, with the Fourth NPT Review Conference itself scheduled to take place August 20 to September 14, 1990 in Geneva. □

Clark Addresses General Assembly

The 44th Session of the UN General Assembly opened in New York on September 18, 1989. The following are excerpts from a speech delivered by the Right Honourable Joe Clark, Secretary of State for External Affairs, to the General Assembly on September 26, 1989.

Mr. President, before beginning my main remarks I want to comment on two particular developments of relevance to the United Nations.

The first concerns the application of modern technology to the challenge of peacekeeping. In April of this year, Canada completed a comprehensive study, the purpose of which was to explore the utility of all forms of aerial surveillance to the peacekeeping tasks now before the international community. The conclusion of this study was that these overhead technologies — satellite or airborne — could significantly increase the efficiency of peacekeeping operations and related verification endeavours. This study will be submitted to the UN for its consideration.

I believe this is an important development both symbolically and as an achievement in its own right. It is the sort of pragmatic, concrete work necessary to allow the UN to handle its ever-expanding peacekeeping responsibilities more effectively. It also symbolizes one of the fundamental purposes of this Organization: harmonizing the wonders of modern technology to the tasks of peace-building and not war-making.

The second development on which I would like to comment is the readiness by Canada, if asked, to supplement the United Nations presence in Namibia by sending trained and respected police forces. Canada supported enthusiastically the idea that nations should help meet the urgent requirements for skilled policing in Namibia. We are ready to send members of our national force, the Royal Canadian Mounted Police, who have played such a decisive and constructive role in our own history.

They were, in effect, Canada's first peacekeepers. In 1874, in one of the actions which made us a transcontinental nation, the North-West Mounted Police marched west, across 100 miles to establish by their presence, the rule of law in the Canadian West. They brought order, not force, and by their conduct, established a respect that endures to this day, and has made them one of the most admired police forces in the world. They would carry to Namibia not only their skills, but their reputation as keepers of the peace.

This would be the first time in Canadian history that the RCMP has undertaken such a role. In order to be ready, their Commissioner asked for 100 volunteers. So far, 2,000 members have responded to that call — from a total force of over 14,000. We believe that Canadian mounties, who more than a century ago brought a universal respect for law and order to our own West, can extend that tradition to Namibia, as that new nation finally comes of age.

This is an unprecedented and challenging period in world affairs.

On the one hand, there is real movement on problems that, not long ago, seemed intractable — that is true in Southern Africa, in Indochina, in parts of the Middle East and, most dramatically, in East-West relations.

At the same time, the sense of crisis becomes more acute. Our climate is changing, bringing drought, or inundation, or threats to our very survival. New diseases develop. New technologies allow proliferation of the most deadly weapons. Terrorism becomes more widespread.

What is common about these problems is that none of them can be solved by one nation acting alone, nor by one group of powerful nations concerting their will.

In the past, we assumed the world could survive man's worst excesses. Now, in an age of suitcase bombs, and the AIDS pandemic, and holes in the ozone,

there is doubt about that elemental ability to survive. Doubt, but not despair — indeed the opposite of despair. What marks this period in world affairs is an activism and a pragmatism which yield surprising results. And they come together here, in this United Nations.

We are entering an era where the words of the UN Charter must cease to be goals to which we aspire; they must become descriptions of our common action. And the term "United Nations" cannot simply be the name of our institution; it must become a statement of our common purpose.

Who today can imagine a nuclear war in which there are winners and losers?

Who can envisage a conventional war in Europe which does not consume the prize?

Who can construct a solution to the debt crisis which does not involve compromise?

Who can foresee a cleaner global environment without international cooperation and joint action?

And who can imagine a resolution of the many crises in the developing world without a reasoned and productive dialogue with the developed world?

In the past, it was the adherents of unilateralism who were known as realists and the advocates of cooperation who were labelled idealists. I submit that the reverse is now the case. Cooperation is now the new realism, and pragmatism is the path to progress.

Much has been accomplished in recent months and years; much more remains to be done.

Within the East-West relationship, there is a new willingness to abandon sterile linkages, and to seek solutions to tractable problems even when other areas remain contentious.

This welcome attitude has invigorated this institution and brought hope to many conflicts and regions of the world. We encourage its continuance.

Arms control is now characterized by real compromise and give and take. Problems which are truly acute are being

addressed first. Areas where technology threatens to overtake politics are being given priority. And the unnecessarily large and undesirably unstable balance in conventional forces is finally being dealt with head-on.

Canada warmly welcomes the significant progress made in recent days by the United States and the Soviet Union on a variety of fundamental issues.

In particular, movement towards the abandonment of the linkage between research on strategic defence and progress on strategic nuclear arms control is a very positive development.

So too is the progress registered on eliminating chemical weapons, including the exchange of data on stocks. We strongly welcome President Bush's offer to reduce stockpiles to less than twenty percent of current levels while efforts continue in Geneva to negotiate a Chemical Weapons Convention.

Canada also endorses the US and Soviet agreement to explore an Open Skies arrangement between NATO and the Warsaw Pact.

Such an arrangement would be daring in its simplicity, yet pathbreaking in its consequences; an agreement that the aircraft of each member of both alliances could enter the airspace of the other alliance subject only to basic air safety regulations. This would increase the assurance of every member that military activities were not becoming preparations for surprise attack.

From the beginning, we have urged the United States to move forward with this visionary proposal, and to make it an alliance-to-alliance arrangement.

An Open Skies agreement would be a compelling symbol of the new East-West relationship. It would build confidence and serve as a useful vehicle for the verification of other agreements, including an eventual agreement on conventional forces in Europe.

We are prepared to go beyond moral support. On Sunday, after consultations among NATO and the Warsaw Pact, Prime Minister Mulroney announced Canada's offer to host an inter-alliance

conference, as early as November, in order to explore the possibilities of a formal agreement on Open Skies.

It is of fundamental importance to deepen and widen East-West relations. A stable structure of peace cannot endure if its only component is concurrence on arms control, no matter how far-reaching that agreement is.

Enduring peace requires understanding, a sense of shared problems and a shared stake in the future. Above all, it demands a sense on each side that the survival of the other is in its own best interest. What is required is agreement not only on the avoidance of war but also on the advantages of peace....

It is for this reason that Canada has strongly supported expanding the field of activity of NATO; that is, pursuing more energetically the Alliance's mandate for political and social dialogue. In this connection, during NATO's most recent summit, a Canadian proposal was adopted to assist young political leaders in learning how to make democracy work. More initiatives of this type are required.

Cooperation is now the new realism

The progress in East-West relations owes much to the refreshing breezes of change sweeping Eastern Europe and the USSR. Ideology is giving way to compromise. Governments are recognizing that the old ways do not work; that new strategies are required; that lessons may be learned abroad; and that cooperation in the economic and social spheres does not constitute an acknowledgement of defeat but is rather a recipe for success.

Canada's support for the changes now underway in the East is unequivocal. There must be no turning back and that requires imagination in the West on how to strengthen this remarkable process of reform and liberalization....

Totalitarianism is fading not because it is regarded by its subjects as wrong; it is being discredited because it doesn't work. It doesn't deliver.

Democracy is not only a set of values; it is also a statement that there is no monopoly on truth, that different groups at different times may have different solutions to different problems. It is the politics of pragmatism. It works. It delivers.

A free market is not simply a particular means of ordering the economy. It is a framework which enables the individual to act on his or her own merits, efforts and capacities. It conforms to human nature. It is the economics of pragmatism. It works. It delivers.

It is for this reason that Canada welcomes the tide of democratization and the shift to the marketplace evident around the globe. On this trend rests the hope for social stability. And such stability is a firm foundation for international peace....

The Soviet withdrawal from Afghanistan; the settlements in Angola and Namibia; the ceasefire in the Iran-Iraq war; and the progress evident in Central America; all are testimony to a new willingness to compromise. They are also testimony to the crucial role played by this organization and its Secretary-General in the search for global order.

Much more needs to be done. There is a difference between the absence of war and the presence of peace. The international community must continue to do everything in its power to ensure that the processes now underway in these troubled regions move from truce to settlement, from stand-off to stand-down....

As some regional conflicts have been brought under control, the unique and important UN instrument of peacekeeping has been brought to bear. At the same time, welcome and pragmatic suggestions are being made to improve operations and funding. Canada supports the Secretary-General's call to provide peacekeeping with a rational and secure funding base. Peacekeeping has become too important to the mission of this Organization to be subject to charity or whim.

One of the central tasks of this Organization has been to weave a new fabric of international law. This it has done assiduously, often without fanfare. The foun-

dation is being laid for an international society governed by legal principles and codes of conduct. As with domestic society, stability is not possible without law — and law is powerless without consensus. The integration into domestic law of the rights codified by the UN in its Declaration of Human Rights and the covenants on racial discrimination and the rights of women — this is testimony to a growing international consensus....

We are witnessing today a profound transformation in the substance of international discourse. Issues once thought intractable are now remarkably close to resolution. And issues once considered the province of domestic governments are now the focus of international activity. These are on the international agenda because they are pressing and because no state no matter how powerful or well-intentioned can resolve them on its own.

Thus the environment is emerging as the most important international challenge of the remainder of this century and the next. In a very few years, the environment will be seen as a threat to human existence in the same way nuclear war has been regarded in the past. It is now a challenge to national survival. It is also an area where the distinction between the domestic and the international agenda is collapsing. Pollution knows no borders. In the end, we all share the same air and water; we all suffer from its corruption or its loss.

Let us agree during this Assembly to hold the proposed Conference on the Environment and Development in 1992. Let us move forward towards a Climate Change Convention where Canada has played a lead role in the development of a UN draft. And let us start a realistic dialogue between the developed and developing world on this environmental scourge which threatens all states, rich and poor.

I detect today a new and welcome wind of change in the stale and unproductive state of relations between North and South which marked the 1970s and the first part of this decade. There is a growing recognition that grand, vague visions must give way to pragmatic dialogue, and that attributing blame does little to solve problems.

In fact, without fanfare and grand initiative, a new process of dialogue has already begun between the developed and developing world....

We are witnessing a profound transformation in the substance of international discourse

Canada believes it is useful to encourage intensive consultations leading to a new conversation between the developed and the developing world, a conversation on focused issues, with a view to arriving at joint action for a common cause.

Conversation, not confrontation. We cannot remake the world anew. But we can — and we must — redress the errors of the past — methodically, pragmatically, realistically and collectively.

Discussions on the environment, on drugs, on investment, trade and debt are worthy of early pursuit. The agenda should be balanced, covering issues of interest to both the developed and developing world. We will be pursuing this question actively in the months ahead with our G-7 partners and the developing world. Soviet involvement in this effort would be welcome, giving them the opportunity to further act on their interest in contributing to the international order. It would also reflect the universal nature of this challenge....

The challenge before us today is to alter our traditional behaviour at an unprecedented rate, in the face of a planet showing so many signs of use and abuse.

We know only too well the litany of global horrors before us:

— a burgeoning global population whose size will expand by almost 3.5 billion in thirty-five short years;

— an ailing environment whose forests are dying or disappearing, whose air is being poisoned, and whose oceans and rivers are becoming dump-sites and cesspools;

— 14 million children dying each year from common illness and poor nutrition;

— a generation debilitated by drugs, the world trade in which now exceeds the value of trade in oil and is second only to the arms trade;

— dozens of economies unable to simultaneously pay for past mistakes and develop a successful future;

— and the proliferation of weapons — chemical and nuclear, as well as the spreading technology of weapon delivery systems — creating a time bomb which threatens the relief we now feel at the superpowers' new-found cooperation.

This Organization, like other international assemblies, reflects the world from which it draws its members and its mission.

There have been many successes:

— the quiet but spectacular victories of UNICEF, the UNHCR and the World Health Organization;

— the triumph of peacekeeping — 50,000 participants of which so deservedly received the Nobel Prize;

— the mediation of disputes, so honourably presided over by the present Secretary-General.

But there have also been failures, opportunities lost to dated ideology and the lack of political will. The challenge posed by the future is not to invent new institutions but to make this UN family of institutions work more effectively and humanely.

Mr. President, we are in a new type of race in which we will either all be winners or we will all be losers.

Let us lay to rest the worn out stereotypes of the past. Let us set aside our differences and work forthrightly for a secure global future. Let us consecrate ourselves anew as United Nations.

And let us confront squarely the problems of our era as men and women aware of the challenges before us, mindful of the consequences of failure, and dedicated to solutions that will work, not dreams that will die. ■

Canada to Host Open Skies Conference

On September 24, 1989, the Prime Minister, the Right Honourable Brian Mulroney, welcomed Soviet Foreign Minister Shevardnadze's endorsement of US President Bush's "Open Skies" proposal of last May and announced that Canada has offered to host a conference to negotiate an "Open Skies" agreement. The conference is expected to be held in Ottawa early next year. Invitations to attend will be issued to the foreign ministers of all other NATO and Warsaw Pact states. In conveying Canada's offer, the Prime Minister noted that a two-stage conference format would likely be adopted, with Canada hosting the first stage and a Warsaw Pact country the second.

"Open Skies" would allow individual countries of the two military alliances to undertake short-notice surveillance flights of one another's territories using unarmed aircraft. The idea was first proposed by US President Dwight Eisenhower at a summit with Britain, France and the USSR in Geneva in July 1955. It was greeted with enthusiasm by the French and British leaders, but dismissed by Soviet leader Khrushchev as "a bald espionage plot." Canada actively promoted the idea over the next few years, but "Open Skies" could not overcome the atmosphere of mutual East-West suspicion then prevailing.

The concept lay dormant until the spring of 1989 when President Bush directed his staff to undertake a comprehensive review of US arms control policies and potential initiatives. During the course of regular consultations on arms control, Canada became aware that "Open Skies" was under consideration as one of these initiatives. The idea of an "Open Skies" regime was attractive to Canadian officials, who encouraged their US counterparts to consider the proposal sympathetically. Prime Minister

Mulroney mentioned Canada's interest in "Open Skies" to President Bush at a meeting in early May, as did Secretary of State for External Affairs Joe Clark at a meeting with his counterpart, Secretary of State James Baker.

On May 12, President Bush, in an address to the graduating class of Texas A&M University, proposed that an "Open Skies" regime be created as a confidence-building measure. Canada welcomed the President's proposal and pledged its full support in the development of an "Open Skies" regime.

Canadian officials spent the summer quietly encouraging their counterparts in Western and Eastern Europe to consider the "Open Skies" proposal. These efforts by Canada and others were rewarded on September 21 when Soviet Foreign Minister Shevardnadze indicated to Secretary of State Baker during discussions at Jackson Hole, Wyoming that the USSR would participate in an international conference on the subject.

The type of "Open Skies" regime envisaged would open NATO and Warsaw Pact members' territories to aerial surveillance by unarmed, non-

combat aircraft subject only to internationally-accepted civilian flight safety rules. The regime would not be related to a specific treaty, but would rather serve as a general confidence-building measure between East and West. As the Prime Minister stated on September 24: "the scheme's strength is its simplicity.... It will provide greater assurances to individual participating countries that the military activities of their neighbours are not preparations for surprise attack."

The scheme's strength is its simplicity

An "Open Skies" regime would allow states — such as Canada — that do not possess satellite means of observation to exercise an independent capability of monitoring activities of potential concern. It would enable the North American members of NATO to demonstrate their willingness to shoulder some of the burden of intrusiveness that the European allies will incur under a conventional force reduction agreement in Europe. It would also provide an opportunity for Soviet President Gorbachev to re-emphasize his commitment to "glasnost" in a dramatic yet practical fashion. □

Bilateral Arms Control and Disarmament Consultations February — September 1989

Canada conducts annual and ad hoc arms control and disarmament consultations with a variety of countries at the senior officials' level. Below is a list of consultations during the February-September 1989 period.

DATE	COUNTRY	LOCATION
April 6-7, 1989	USSR	Ottawa
June 6, 1989	Czechoslovakia	Prague
June 8, 1989	Poland	Warsaw
June 12, 1989	France	Ottawa
July 20, 1989	USSR	Ottawa
September 26, 1989	New Zealand	Wellington

Mason Addresses First Committee

The First Committee of the 44th United Nations General Assembly began its deliberations in New York on October 16, 1989. The First Committee, which deals with political and security matters, has an agenda comprising the entire range of arms control and disarmament questions. It prepares recommendations and draft resolutions which are then submitted to the General Assembly for adoption on the basis of a majority vote. The following is the text of the address given by Canada's Ambassador for Disarmament, Ms. Peggy Mason, to the First Committee on October 20, 1989.

One year ago, in his address to the First Committee, Canada's Ambassador Yves Fortier remarked on the degree of hopefulness being exhibited in this chamber and in the General Assembly. This hopefulness reflected the dramatic improvement in relations between the two leading military powers, the painstaking, but real, progress in negotiations toward arms control agreements, and the amelioration of regional conflicts.

Today, when we look back at what has happened since that time, we have even stronger grounds for the expectation and desire that characterize hope. Progress has continued on many fronts: in the resolution of regional conflicts in Southern Africa, Indochina and Central America; in the general climate of East-West relations; and, most particularly — reflecting and in turn encouraging the East-West improvement — in arms control and disarmament, the province of the First Committee.

Who would have predicted just a few short years ago that the member states of NATO and the Warsaw Pact would be sitting down in March of this year to begin a new set of negotiations aimed at enhancing stability at lower levels of conventional forces in Europe, encompassing all of Europe from the Atlantic to the Urals? And that these negotiations would have an excellent prospect of coming to a successful conclusion within the next year? Who would have predicted, in those early, dark days of the Stockholm

Conference, that the thirty-five states members of the CSCE would soon be negotiating a second round of confidence- and security-building measures, building on those eventually agreed at Stockholm, which continue to be so successfully implemented. These two sets of negotiations in Vienna have the potential to bring about a remarkable, positive and, we hope, lasting transformation of East-West security relations.

Multilateral process must not lag behind

On the issue of nuclear weapons, the United States and Soviet Union continue to make significant progress. Canada was particularly encouraged by the movement last month toward abandonment of the linkage between research on strategic defence and progress on strategic nuclear arms control. Canada also welcomes the advances the two countries are making toward ratification of the Threshold Test Ban Treaty and Peaceful Nuclear Explosions Treaty.

In addition, in their bilateral negotiations, the United States and the Soviet Union have made strides toward the elimination of chemical weapons, strides that Canada hopes will accelerate progress in the negotiations at the Conference on Disarmament in Geneva.

In East-West negotiations, including negotiations between the two super-powers, progress over this past year has been sizable and rapid. We should not assume that it has been easy or foreordained. It has been, rather, a reflection of that recipe for success that the Canadian representative suggested in his address to this Committee last year: patience, persistence and realism. It has been the result of pragmatic approaches, of a willingness to be flexible, a willingness to seriously entertain ideas previously thought unthinkable. There is perhaps no better example of this than the readiness now to begin negotiations to create "Open Skies" over the territories of NATO and the Warsaw Pact, an idea that was rejected out-of-hand when it was first put forward by President Eisenhower thirty-four years ago.

The "Open Skies" concept, if agreed to, would have the effect of opening the territory of North America, Europe and the Soviet Union to virtually unrestricted aerial surveillance. It would mark an unprecedented openness in military relations. It would symbolize a nation's commitment to transparency and provide a clear, unequivocal sign that its intentions are not aggressive. An "Open Skies" regime could lead to an important increase in confidence between East and West. It could also contribute to the verification of specific arms control agreements, including an eventual agreement on conventional forces in Europe. Canada is looking forward to hosting the first stage of a conference to address the issues related to "Open Skies."

I referred a moment ago to the essential ingredients for success in arms control: patience, persistence and realism. On the East-West front it appears that this combination has begun to show results. However, on other fronts, the multilateral process — including the work of the UN — often gives the appearance of lagging behind.

Canada was disappointed, like many of you, by the inability last year of UNSSOD III to arrive at a final document. We were also disappointed this year when the UN Disarmament Commission failed to reach agreement on any of its agenda items. In the Conference on Disarmament, we very much regret that it has not yet proved possible to reach agreement on the basis for a mandate that would allow the establishment of an Ad Hoc Committee on a nuclear test ban. There is much constructive work that can be done there. As East-West negotiations move forward so clearly, some multilateral forums risk acquiring the epithet of "too much talk and too little action."

If it were only a question of uncomplimentary labels we could perhaps continue unperturbed. Unfortunately, East-West negotiations do not operate in a vacuum. A secure and peaceful world, at greatly reduced levels of armaments, cannot be realized until all are prepared to participate in the process of achieving it. The multilateral arms control process can work; we see that in the negotiations related to conventional arms control in

Europe. The UN forums should take heed. We must look closely at that recipe for success.

We will have opportunity to do so in the days ahead, here at the First Committee. We are meeting at an auspicious time. The improved East-West negotiating climate has provided a positive momentum across the full range of arms control and disarmament issues. Our record from last year is good. An unprecedented number of resolutions were adopted by consensus. Work was conducted in a businesslike fashion. The atmosphere was cooperative and productive. Let us continue in that mode, so we can go forward to next year's UNDC, to the NPT Review Conference, and to the other items on the multilateral agenda with renewed energy. Our objectives this session must be to build on the progress we made last year, to reflect the progress happening outside this chamber and to arrive at consensus on resolutions that will contribute to future progress.

There are going to be differences of opinion. There is no point in trying to hide them. But we should not view the First Committee as an occasion merely to restate those differences. We should view it as an occasion to explore our differences with a view to narrowing them, with a view to finding common ground, with a view to reaching consensus. But it must be a genuine consensus, not a consensus of convenience. We should not view this as a forum for grand-sounding statements that we are not prepared to put into practice. If we want to keep pace with developments taking place in other forums, we must be pragmatic in seeking common ground.

With this in mind, Canada will be concentrating on a number of areas over the coming weeks.

Progress in the chemical weapons negotiations at the Conference on Disarmament has not been as dramatic as some may have hoped, given the expectations generated at the Paris Conference earlier this year. These expectations must be tempered, however, by recognition that questions of considerable complexity are now before the Ad Hoc Committee. The working groups established by this year's Chairman had many difficult tech-

nical and legal issues to consider, and they responded with extraordinary diligence and perseverance. We hope that a strengthened sense of purpose will be conveyed to the delegates in Geneva as a result of the highly-successful Government-Industry Conference Against Chemical Weapons, recently concluded in Canberra, Australia.

It has been suggested by some that convincing states to adhere to a chemical weapons convention, once concluded, might be a lengthy process. In fact, for many years, states have indicated in this Committee that they not only support a chemical weapons convention, but that they eagerly await its conclusion. Their votes in favour of resolutions calling for this agreement should be regarded as promises to be kept. The Canadian delegation, in close cooperation with the delegation of Poland, will aim to ensure that this Committee again registers by consensus its view on the urgency of concluding the negotiations for a global, comprehensive and effectively verifiable ban on chemical weapons.

The conclusion of a verifiable comprehensive nuclear test ban treaty has long been, and remains, a fundamental Canadian objective. The progress being made in this area by the United States and the Soviet Union is welcome and should be energetically pursued. With other delegations, we will again be sponsoring a draft resolution urging steps toward the earliest achievement of a comprehensive ban on nuclear testing.

Because of its strong support for treaty-specific verification measures and in light of the procedures that regulate amendments to the PTBT, Canada did not view the initiative for an amending conference as likely to be either helpful or productive. However, now that the conference is to take place, we will, of course, participate constructively.

The verification of compliance with arms control and disarmament agreements continues to be a major focus of Canada's efforts in the multilateral field. Without provision for assurances that parties will abide by their treaty obligations, countries will be hesitant to sign arms control and disarmament agreements. Verification is the essential means

by which confidence in compliance is created. Canada was particularly pleased, last year, with the strong support given to our verification resolution, which endorsed the verification principles agreed upon by the UNDC and called on the Secretary-General to carry out an experts' study on verification. Canada was honoured to be chosen as chair of the group of experts carrying out the study and is pleased to report that the study is proceeding in an effective manner. We look forward to receiving the group's report at UNGA 45. To avoid prejudging the experts' report, and in view of our continued desire to rationalize the activities of this Committee, we do not think it necessary nor appropriate for us to propose a resolution on verification at this session.

As we enter the final decade of the century, the relative prominence of the United States and the Soviet Union as the two major powers in space is lessening. More and more states are developing the capability to conduct space research and to use outer space for legitimate commercial purposes. Such developments are welcome, as long as they do not contribute in any way to the development of an arms race in outer space. For this reason, the Canadian delegation will pay particular attention to the agenda item dealing with the prevention of an arms race in outer space. It is Canada's strong conviction that outer space is an area of legitimate multilateral concern, and that the question of whether additional legal measures may be required in this area is of broad international interest.

Canada continues to believe that a verifiable agreement on the cessation and prohibition of the production of fissionable material for weapons purposes should be negotiated by the Conference on Disarmament at an appropriate stage of its work on the item "Nuclear Weapons in all Aspects." To promote this objective, the Canadian delegation will be introducing, as it has in past years, a resolution calling for such a ban.

The agenda before us is a full one. The way in which we address it — constructively or not — will set the tone for one of the major events on next year's multilateral calendar: the Fourth Review

Conference of the Non-Proliferation Treaty. Not only is this treaty the linchpin of the nuclear non-proliferation regime, it is the point on which all arms control and disarmament progress rests. If we allow that agreement to be damaged, we may undermine the entire arms control process. States will be willing to sign agreements limiting conventional or chemical arms only if they

know that parties to those agreements will be inhibited from acquiring nuclear weapons by a strong non-proliferation regime. Commitment to arms control and disarmament must, almost by definition, mean commitment to the NPT.

Canada was an active participant in past Review Conferences and looks forward to working closely with all NPT parties to help ensure the success of the

1990 conference. We believe that its outcome will be of critical importance in setting the stage for the role of the Treaty beyond 1995.

Patience, persistence and realism — the formula that has begun to yield results, must continue to be followed. Only with these ingredients can effective and lasting progress in arms control and disarmament be achieved. □

West Presents Expanded Position at CFE

The following is the position paper provided by the delegations of Belgium, Canada, Denmark, France, the Federal Republic of Germany, Greece, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Turkey, the United Kingdom and the United States at the closing of the Second Round of the Negotiation on Conventional Armed Forces in Europe (CFE) in Vienna on July 13, 1989.

Objectives

1. The agreed objectives of this negotiation are:

- the establishment of a secure and stable balance of conventional forces at lower levels;
- the elimination of disparities prejudicial to stability and security;
- the elimination, as a matter of high priority, of the capability for launching surprise attack and for initiating large-scale offensive action.

2. Through the proposals set out below the Delegations of Belgium, Canada, Denmark, France, the Federal Republic of Germany, Greece, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Turkey, the United Kingdom and the United States seek to establish a situation in which surprise attack and large-scale offensive action are no longer credible options. We pursue this aim on the basis of equal respect for the security interests of all. Our proposals make up a coherent whole and



A CH-136 Kiowa helicopter from Canadian Forces Base Lahr, followed by two Dutch Air Force helicopters, flies past the Hohenzollern castle in southern Germany during a NATO squadron exchange visit.

Canadian Forces Photo by WO Vic Johnson

are intended to be applied simultaneously and in their totality in the area of application, as defined in the mandate.

Rationale

3. The rationale for our proposals is as follows:

- the present concentration of forces in the area from the Atlantic to the Urals is the highest ever known in peacetime and represents the greatest destructive potential ever assembled. Overall levels of forces, particularly those relevant to sur-

prise attack and offensive action such as tanks, artillery and armoured troop carriers, must therefore be radically reduced. It is the substantial disparity in the numbers of these systems, all capable of rapid mobility and high firepower, which most threatens stability in Europe. These systems are also central to the seizing and holding of territory, the prime aim of any aggressor;

- no one country should be permitted to dominate Europe by force of arms: no participant should therefore possess more than a fixed proportion of the total

holdings of all participants in each category of armaments, commensurate with its needs for self defence;

— addressing the overall number and nationality of forces will not by itself affect the stationing of armaments outside national borders: additional limits will also be needed on certain forces stationed on other countries' territory;

— we need to focus on both the levels of armaments and state of readiness of forces in those areas where the concentration of such forces is greatest, as well as to prevent redeployment of ground forces withdrawn from one part of the area of application to another. It will therefore be necessary to apply a series of interlocking sub-limits covering certain forces throughout the area, together with further limits on armaments in active units;

— it was decided at the meeting of Alliance Heads of State and Government in Brussels on 29th/30th May 1989 that aircraft and helicopters should also be reduced because of their relevance to the conventional balance. We envisage appropriate measures of verification and non-circumvention taking account of the particular characteristics of these weapons systems;

— the Summit meeting in Brussels on 20th/30th May 1989 also decided to supplement these provisions with an equal ceiling on US and Soviet ground and air force personnel stationed in Europe outside their national territory. Such a measure reflects the particular responsibilities of the two major powers in the reduction of military confrontation and the building of mutual confidence in Europe on a basis of mutual equality, as well as the fact that these two countries maintain substantial forces outside the zone of application.

Proposals

Chapter I: Limitation on Major Weapons Systems

a. Ground Forces

Our proposals on ground forces have been made public on 6th March in Vienna. Those main battle tanks, artillery pieces and ATCs withdrawn from service in order to achieve compliance with the

rules proposed in March shall be destroyed, in accordance with procedures to be agreed.

b. Air Assets

Rule A: Overall Limit

The overall total of combat aircraft and combat helicopters will at no time exceed:

Combat Aircraft:	11,400
Combat Helicopters:	3,800

Rule B: Sufficiency

No one country may retain more than 30% of the overall limits in these two categories, i.e.

Combat Aircraft:	3,420
Combat Helicopters:	1,140

Rule C: Sub-Limits

Within the area of application delineated under Rule 4(1), each group of countries belonging to the same treaty of alliance shall not exceed the following levels:

Combat Aircraft:	5,700
Combat Helicopters:	1,900

Rule D: Disposition of Reduced Weapons Systems

Those aircraft and helicopters withdrawn from service in order to achieve compliance with Rules A to C above shall be destroyed in accordance with procedures to be agreed.

Chapter II: Limits on US and Soviet Ground and Air Force Personnel Stationed in Europe Outside National Territory

The United States and the Soviet Union shall not station outside their national territory within Europe from the Atlantic to the Urals more than, in each case, 275,000 ground and air force personnel.

United States and Soviet Union personnel withdrawn from service in order to achieve compliance with this limit shall be demobilized.

Chapter III: Measures of Information Exchange, Stabilization, Verification and Non-circumvention

In addition, there will, as an integral part of the agreement, be a need for further measures of information exchange,

stabilization, verification and non-circumvention.

a. Information Exchange

Each year holdings of main battle tanks, armoured troop carriers, artillery pieces, combat aircraft and helicopters will be notified, disaggregated down to battalion/squadron level. This measure will also apply to personnel in both combat and supporting units. Any change of notified unit structures above battalion/squadron level, or any measure resulting in an increase of personnel strength in such units or in aggregate personnel levels, will be subject to notification on a basis to be determined in the course of the negotiations.

b. Stabilizing Measures

We shall shortly present proposals designed to buttress the resulting reductions in force levels in the ATTU area. These will include measures of openness and constraint applied to the deployment, movement, storage and levels of readiness of conventional armed forces, including their armaments and equipment. There will also need to be provision for temporarily exceeding the limits set out in Chapters I and II, inter alia, for pre-notified exercises.

c. Measures of Verification

We shall also propose verification arrangements designed to provide assurance of compliance with the agreed provisions.

d. Non-circumvention Provisions

We will propose provisions which will ensure that actions of the parties do not circumvent the agreement and do not have adverse security implications for any participant.

Chapter IV: The Longer Term

In the longer term, and in the light of the implementation of the above measures, we would be willing to contemplate further steps to enhance stability and security in Europe, such as:

— further reductions or limitations of conventional armaments and equipment;

— the restructuring of armed forces to enhance defensive capabilities and further to reduce offensive capabilities. ■

West's Chapter III Position at CFE

The following is the position paper provided by the delegations of Belgium, Canada, Denmark, the Federal Republic of Germany, France, Greece, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Turkey, the United Kingdom and the United States at the Negotiation on Conventional Armed Forces in Vienna on September 21, 1989.

I. Introduction

1. The proposals tabled by the member states of the Atlantic Alliance on 9th March and 13th July are designed to eliminate disparities in key categories of combat equipment relevant to surprise attack and offensive action and thereby to contribute towards the achievement of a more stable and secure balance of forces at lower levels. Full implementation of these proposals will dramatically reduce the capacity to conduct offensive operations. But a numerical parity in conventional forces in Europe, even at lower levels, will not by itself guarantee stability and security. Further measures are necessary to ensure that, insofar as is possible, the arms reductions we propose will in fact result in the lasting stability and security that we seek.

2. The additional measures necessary are:

- Exchange of Information
- Stabilizing Measures
- Verification Provisions
- Measures to prevent circumvention.

II. Exchange of Information

3. There will be an exchange of data on forces, sites and weapon systems as outlined below. Each state will be responsible for its own data; receipt of this data and subsequent notifications will not imply validation or acceptance of the data.

4. Information to be Exchanged

(A) Each participant shall provide the following information about the structure of its land, air and air defence forces in the area of application:

(i) Its land forces command organization, showing the designation and subordination of all combat, combat support

and combat service support formations and units at each level of command down to the level of battalion or equivalent*, indicating whether the unit is active duty or not.

(ii) Its air and air defence forces command organization**, showing the designation and subordination of formations and units at each level of command down to squadron or equivalent.

(B) For each of the above formations and units holding treaty-limited items, each participant shall provide the following information:

(i) The normal peacetime location of its headquarters component and of formations and units at which treaty-limited items are stationed or held, with exact geographical terms or coordinates and peacetime planned/authorized personnel strength.

(ii) The holdings at such locations of the following categories of treaty-limited equipment, specifying numbers and types:

- main battle tanks
- artillery pieces
- armoured troop carriers
- combat aircraft
- combat helicopters

(iii) The locations and holdings of Armoured Vehicle Launched Assault Bridges (AVLB), in active units.

(C) Each participant shall also provide information on the following within the area of application:

(i) The location, including exact geographical terms or coordinates, of storage depots monitored under the stabilizing and verification arrangements of this agreement, and the numbers and types of treaty-limited equipment held at such depots.

(ii) The numbers, types and permanent locations of treaty-limited items not belonging to the formations and units

* This is to include "low strength units" [see Stabilizing Measure 3(D)(1)].

** This is to include naval aviation permanently based on land.

declared under (B)(i) above, and not in monitored storage.

(iii) The location, including exact geographical terms or coordinates, and the number of personnel assigned to low strength units* designated under Stabilizing Measure 3(D).

(iv) The location, including exact geographical terms or coordinates, of other sites where treaty-limited equipment may be present on a regular or periodic basis, such as repair and maintenance depots, training establishments, storage depots other than those subject to monitoring under verification measures of this agreement, and alternative operating airfields, and the numbers of any treaty-limited equipment permanently located at such sites.

(v) The numbers and location, including geographical terms or coordinates of AVLB in monitored storage and in any other sites not covered by 4(B)(iii).

(D) The US and Soviet Union shall provide information on the number and location of their ground and air force personnel stationed on the territory of other participants in the area of application.

(E) Each participant shall also indicate the location of any sites which held equipment of the types subject to limitation under Chapter I after 1st January 1989, and from which such equipment has been withdrawn; each of these sites will have to be declared for (x) years following such withdrawal.

(F) In addition, each participant shall also provide information on the numbers, type and location of any main battle tanks, artillery pieces, armoured troop carriers, combat aircraft and combat helicopters present on the territory of participants in the area of application, not subject to treaty limitation but with a potential for circumvention, e.g., equipment held by paramilitary forces and equipment which is not in service with the armed forces of any participant.

5. Information required by paragraph 4 above shall be communicated in writing through diplomatic channels in accordance with an agreed format.

* As defined in Stabilizing Measure 3(D).

6. Each participant shall provide the stipulated information on its military structure, forces and equipment in the area of application:

- on signature of the Agreement, with information effective as of that date;
- on coming into force of the Agreement, with information effective as of that date;
- on 15th December of that year and the 15th December of every year thereafter (with information effective as of the 1st day of January the following year); and
- immediately after completion of reductions.

7. Notification of Changes in Organizational Structures on Force Levels.

(A) Each participant shall notify all other participants 42 days in advance of any permanent change in the organizational structure of its existing units in the area of application or the permanent addition of any new unit of at least battalion/squadron or equivalent size to its forces in the area of application.

(B) Each participant shall notify all other participants of changes of 10 percent or more in the peacetime planned/authorized strength of personnel and of treaty-limited equipment in any of its treaty-limited equipment-holding combat, combat support or combat service support units down to the battalion/squadron or equivalent level in the area of application since the last annual report. All such changes shall be reported in the preceding annual information exchange or as they occur.

III. Stabilizing Measures

Measure 1: Notification of Call-up of Reservists

Any participant intending to call up 40,000 or more reservists in the area of application shall notify all other participants at least 42 days in advance. Such notification shall be in writing in an agreed format and shall include the number of reservists involved, the designation and location of the units affected, and the purpose and intended duration of the call-up.

Measure 2: Notification of Movements

(A) Any participant intending to move ground treaty-limited equipment from one location to another within the area of application shall notify all other participants at least 42 days in advance if such movements will exceed within 14 days the following levels:

Main Battle Tanks	600
Artillery	400
Armoured Troop Carriers	1,200

(B) Notification made in compliance with this Measure shall be in writing, in an agreed format, and shall specify the number of items of treaty-limited equipment to be moved, their normal peacetime locations, the route of their movement to and from the new locations, and the purpose and intended duration of their presence in the new locations.

Measure 3: Monitored Storage

(A) Monitored Storage Requirement

(1) For each group of states belonging to the same treaty of alliance, equipment in active units shall not exceed the following levels in the area of application:

Main Battle Tanks	16,000
Artillery	14,500
Armoured Troop Carriers	25,500

(2) Treaty-limited equipment which is within the total authorized ceilings but in excess of the ceilings for active units stated in paragraph (A)(1) shall be placed either in monitored storage sites as specified in (B) below or in monitored low strength units as specified in (D) below within the area 4.2. Equipment located in area 4.3 shall, however, be placed in monitored storage sites.

(B) Monitored Storage Sites

(1) Only equipment placed in declared, monitored storage as specified in this Section shall be regarded as equipment in storage for compliance with the requirements of paragraph (A)(2) above.

(2) The location of monitored storage sites for treaty-limited equipment shall be declared and communicated to all CFE participants, along with information specifying the quantities of treaty-limited equipment stored at them.

(3) Monitored storage sites declared in accordance with paragraph (B)(2) shall be configured to ensure:

- an effective separation of stored equipment from active equipment;
- ease of monitoring;
- clearly defined boundaries with limited entrance and exit points.

(4) Participants may maintain as much treaty-limited equipment in non-monitored storage sites as they desire, but equipment kept at such sites shall be counted, solely for the purposes of this agreement, as being in active units.

(C) Removal from Monitored Storage

(1) Except as permitted by (C)(4) below, equipment may be removed from monitored storage only when the state intending to remove that equipment has notified all CFE participants at least 42 days prior to removal. Such equipment shall not remain out of storage for more than a period of 42 days.

(2) Equipment removed from monitored storage under (C)(1) by states belonging to the same treaty of alliance shall at no time exceed the following levels:

Main Battle Tanks	600
Artillery	400
Armoured Troop Carriers	1,200

(3) Notification of the intended removal of equipment from monitored storage in compliance with (C)(1) shall specify the location(s) of the site(s) from which the equipment is to be removed and shall provide details on the intended use of the equipment during the period of its removal from storage.

(4) Small [up to 10 percent of the figures in (C)(2) above] amounts may be removed for maintenance or other purpose without being subject to the time limit in (C)(1) and without prior notification except to any observer at the storage site.

(5) Replacement of equipment in monitored storage shall be notified by the state making the replacement at the time it takes place and shall include the disposition of any removed equipment.

(D) Equipment in Monitored Low Strength Units

(1) For the purpose of the agreement, a definition of low strength units shall be agreed among the participants.

(2) The location of such units shall be declared and communicated to all CFE participants, along with information specifying the quantities.

(3) The treaty-limited equipment in such units shall be subject to observation and monitoring to the same level of confidence as that for treaty-limited equipment stored pursuant to (B) above.

(4) Participants may hold as many additional non-monitored low strength units as they desire, but equipment kept at such units shall be counted, solely for the purpose of the agreement, as being in active units.

Measure 4: Limitation and Monitored Storage of Bridging Equipment

(A) For each group of states belonging to the same treaty of alliance, there shall be in active units in the area of application no more than 700 armoured vehicle launched assault bridges.

(B) All armoured vehicle launched assault bridges above the levels specified in (A) above shall be placed in monitored storage, as defined in Measure 3. A maximum of 50 items of such equipment may only be removed from monitored storage in accord with the provisions of Measure 3(C) above.

Measure 5: Constraint on the Size of Military Activities

(A) No participant shall conduct in the area of application any military activity involving more than 40,000 troops or 800 main battle tanks, if organized into a divisional structure or into at least 2 brigades/regiments, not necessarily subordinate to the same division, except as permitted in (B) below.

(B) A participant may conduct one military activity exceeding the limits stated in (A) above within a period of 2 years. Such an activity shall require prior notification to other participants at least 12 months before the activity is to be conducted. The notification shall include the information specified under Paragraph 56 of the Stockholm Document, supplemented by:

(1) The planned area of the military activity, indicated by geographic coordinates, and geographic features if appropriate.

(2) The planned duration of the activity, indicated by projected start and end dates.

(3) The envisaged total number (rounded to the nearest hundred) of troops taking part in the military activity. For activities involving more than the participant, the host state will provide such information for each participant involved.

(4) The planned level and designation of direct operational command under which the activity will take place.

(5) For each participant, the number, type and designation of each ground formation unit down to division or equivalent level whose participation is envisaged.

Air Stabilization Measures

8. The possibility of additional stabilizing measures to deal specifically with combat aircraft and helicopters should be addressed in due course.

IV. Verification Measures

Conceptual Approach

9. The CFE treaty will need to include a verification regime designed to:

- provide confidence that all parties are in compliance with treaty provisions;
- deter violations of treaty provisions;
- enable violations to be detected in a timely fashion.

Such a verification regime must be simple, reliable and as inexpensive as possible, consistent with the needs of effective verification.

10. Implementation of CFE verification provisions and judgements about treaty compliance will be the responsibility of each sovereign state party to the treaty, but treaty provisions should not impede whatever cooperative arrangements allies may choose to make in the exercise of those responsibilities.

11. The three major tasks will be:

- (A) validation of baseline data, relating to the forces to be reduced;
- (B) monitoring of reductions;
- (C) confirmation of compliance with agreed residual force limits and other provisions for the life of the treaty.

Measure 1: Declared Sites

A) All sites declared under the terms of paragraphs 4(B), 4(C) and 4(E) above shall be subject to inspection at short notice, with no right of refusal, and in accordance with the provisions in paragraph 12.

(B) Each state shall be liable to receive on its territory an agreed quota of inspections. The quota will reflect relevant parameters. The quota will be expressed in terms of the number of days' presence on the territory of the receiving state of inspection teams.

(C) The intensity of inspections shall be greater during the initial (x) month period after the entry into force of the treaty in order to facilitate the initial validation of the baseline data. The armed forces of participants will not be required to suspend out-of-garrison training (stand-down) for the entire period of the baseline inspection.

(D) Within the quota in (B) above, the participant sending the inspection teams will be free to decide for how long each team will stay on the territory of the inspected state and which declared sites it will visit during this period, but no team may stay more than (y) days at any one site. While it is understood that the full inspection quota must be capable of being fulfilled, there will be a limit to the number of inspection teams that a participant must receive at any one time, according to (B) above.

(E) Provisions will also be required for the application of the inspection regime to the information provided under paragraph 4(D) above.

Measure 2: Non-declared Sites

Participants shall also have the right to request inspection of other sites on the territory of another participant in the area of application. While there would be a right of delay and ultimately refusal, these should be kept to a minimum. In any case an obligation to attempt in good faith to satisfy the concerns of the party requesting an inspection at an undeclared site will remain. Quotas for such inspections could be based on the same criteria as those for declared sites, but differently weighted. Participants will agree on

detailed modalities to govern such inspections, taking into account the provisions of paragraph 12 below.

Measure 3: Monitored Storage Sites and Monitored Low Strength Units

In addition to the provisions outlined in Measure 1, these sites and units will be subject to appropriate monitoring measures to be agreed.

Measure 4: Monitoring of Reductions

(A) Destruction of treaty-limited equipment that is to be reduced shall be in accordance with procedures to be agreed by the participants. This destruction shall take place at designated sites and shall be completed according to an agreed timetable within a period of (x) years.

(B) All destruction of equipment above agreed ceilings shall be notified in advance and be subject to on-site monitoring without quotas or right of refusal. Treaty-limited equipment shall be considered destroyed when agreed prior notification procedures have been followed, the destruction has been carried out in accordance with agreed procedures, and notification has been received that such destruction has been completed. Participants will agree on the notification, destruction and monitoring procedures to be followed.

(C) Reduction of US and Soviet stationed personnel shall be completed according to an agreed timetable within a period of (x) months and the reductions shall be subject to monitoring by any of the participants.

Measure 5: Monitoring of Stabilizing Measures

Participants shall also have the right to monitor, under appropriate conditions, the call-up of reservists (Stabilizing Measure 1), movements from one location to another (as notified under the terms of Stabilizing Measure 2), and the size of military activities (Stabilizing Measure 5).

Measure 6: Aerial Inspection

A CFE regime will include provisions for aerial inspection. Modalities and quotas require further study. The parties shall consider cooperative measures to enhance aerial inspection.

Measure 7: Possible Special Measures for Verification of Aircraft and Helicopter Limits.

The possibility of additional measures to deal specifically with the verification of combat aircraft and combat helicopters, such as identification by number or perhaps tagging of aircraft and helicopters permanently land based in the area of application, requires further study.

Measure 8: National or Multinational Technical Means

(A) No participant shall interfere with national or multinational technical means of verification, or use concealment measures which impede verification of compliance with the CFE treaty except cover and concealment practices associated with normal training, maintenance, and operations.

(B) The participants shall consider cooperative measures to enhance national or multinational technical means of verification.

Measure 9: Joint Consultative Group

Participants will establish a Joint Consultative Group in the framework of which they will resolve ambiguities, address questions of compliance as well as promote the treaty's viability.

12. General Considerations

(A) No state shall exercise inspection rights on the territory of other parties who belong to the same treaty of alliance. Each inspection or monitoring team shall be the responsibility of one state. That state may include representatives of other members of the treaty of alliance to which it belongs on its inspection or monitoring team if it chooses. In conducting on-site inspections, the inspecting party should be permitted access, entry and unobstructed survey within the site that is being inspected except at sensitive areas or points.

(B) Each participant shall be entitled to conduct an agreed number of inspections upon the territory of other participants in the area of application. These active quotas are to be determined among the members of the same alliance. Unusual quotas may be transferred to other members of the same alliance, however, no participant will be obliged to accept more than 10 percent of its passive quota of inspections in each calendar year from

the same participant. The number of inspections available for the participants in each alliance should be sufficient for effective verification.

(C) Other details of modalities for verification provisions and the specific rights and duties of inspecting and inspected states will be agreed and contained in an inspection protocol.

V. Non-circumvention

13. Each party shall, in exercising its national sovereignty, have the right to withdraw from the treaty if it decides that extraordinary events related to the subject matter of the treaty have jeopardized its supreme interests. A party intending to withdraw shall give notice of its decision to withdraw to all other parties three months in advance of its withdrawal. Such notice shall include a statement of the extraordinary events the party regards as having jeopardized its supreme interests.

14. Each party shall, in particular, in exercising its national sovereignty, have the right to withdraw from this treaty if a party were to increase its holdings in tanks, artillery pieces, armoured troop carriers, land-based combat aircraft or land-based combat helicopters, as defined in Chapter I, which are outside the scope of the limitations of the treaty, in such proportions as to pose a direct and obvious threat to the balance of forces within the area of application.

VI. Other Issues

15. Measures will also be required for the notification and monitoring, under appropriate circumstances to be worked out, of arrivals of main battle tanks, artillery pieces, armoured troop carriers, land-based combat aircraft and land-based combat helicopters in the area of application, exits being duly taken into account so as to provide necessary assurance that the agreed ceilings under Chapter I will not be exceeded or circumvented.

16. Measures will be required to provide necessary assurance that the agreed ceilings under Chapter I are not exceeded or circumvented through the disposition in the zone of newly produced main battle tanks, artillery, armoured troop carriers, land-based combat aircraft and land-based combat helicopters. □

Government and Industry Discuss CW Ban in Canberra

Government officials from over 65 countries and chemical industry representatives from over 30 countries met in Canberra, Australia, September 18-22, 1989, to discuss the proposed ban on chemical weapons. The purpose of the conference was twofold: to strengthen the government-industry bond in the pursuit of a total ban on the development, production, stockpiling and use of chemical weapons (CW); and to draw attention to national and industrial responsibilities until the CW negotiations at the Conference on Disarmament in Geneva are concluded and a CW Convention enters into force.

The Canadian delegation to the conference was led by Mr. John Noble, Director General of the International Security and Arms Control Bureau of External Affairs and International Trade Canada. The delegation was pleased to include a representative of the Pharmaceutical Manufacturers Association of Canada: Mr. Andrew Quinn, Director Materials Management, Merck Frosst Canada Inc. In addition, as a result of regular consultations with the Canadian Chemical Producers' Association, the delegation knew that it had that Association's pledge of support for Canada's efforts toward the conclusion of a CW Convention, and for Canada's willingness to do its part in implementing a Convention.

Although measures to ensure the destruction of existing chemical weapons and their production facilities will affect only a small number of countries, each and every state party to a Convention will be required to demonstrate that its chemical industry is not being used — either directly or indirectly — to circumvent the Convention. Verification of non-production of chemical weapons will have to extend far beyond the 10-year destruction phase into the indefinite future. This verification will have to not only embrace chemicals currently of concern because of their toxicity or potential for use as key precursors to toxic chemicals, but also be able to keep abreast of newly-discovered chemicals and technological developments that could be diverted to prohibited purposes. As a result, the chemical industry will be sub-

jected to scrutiny in a way and to a degree that might be considered extremely burdensome.

Or would it be? One of the messages carried to Canberra by the Canadian and some other Western delegations is that their chemical industries are already highly regulated for health and environmental reasons. They are already subject to data reporting obligations and to inspection. What will be new under a CW Convention is the quantity and level of detailed information that will have to be provided to an international agency. Also new will be the requirement to allow not only national, but also international, inspectors access to certain facilities on a routine basis and to any facility in the event of challenge inspection. While being fully supportive of a CW Convention, the chemical industry has had concerns about the protection of proprietary and other confidential business information, and about the potential disruption of its operations during inspections.

In his address to the conference, Mr. Noble noted that while national obligations to demonstrate compliance with the Convention will be paramount, great efforts are being made to take industry's concerns into account. He took the opportunity to present to all delegations a study prepared under the auspices of Canada's Verification Research Unit concerning the kind of preparations that will be required, at the national level, to meet obligations under the Convention. The study, entitled "Role and Function of a National Authority in the Implementation of a Chemical Weapons Convention," could be useful to other countries in making their preparations.

Mr. Noble also pointed to the reality and danger of chemical weapons proliferation. He told conference participants that Canada has taken interim measures to exercise its national responsibility in ensuring that Canadian industry does not contribute, even inadvertently, to any production of chemical weapons.

Mr. Quinn was invited to address a workshop on the subject of voluntary industry initiatives to facilitate a Conven-

tion. He discussed an initiative called "responsible care," which originated with the chemical industry in Canada and has since been embraced by other countries. According to Mr. Quinn, the essence of "responsible care" is information flow. It involves the creation at the community, regional and national levels of mechanisms for consultation that bring together the public, labour, industry and government. The program involves the direct participation of senior chemical company officers, ensuring that commitment flows from the top down. Particularly relevant, he said, was the wealth of experience deriving from shared concerns about health and occupational safety, protection of the environment, and community/labour/management relations.

Mr. Quinn explained the inspection regime under which his company already operates in Canada, and the kind of information it must immediately be able to provide to national and provincial authorities when inspectors appear. His own view was that the same information could also be made available to international inspectors. He concluded that industry must show leadership in the responsible use of precursors and machinery which could be diverted to the manufacture of chemical weapons.

Such views were typical of the sense of responsibility and expression of cooperation on the part of the chemical industry evident at the conference, which took the tangible form of a consensus "Industry Statement." Expressing unequivocal abhorrence of chemical warfare and a willingness to work actively with governments to achieve and then implement a global ban on chemical weapons, the industry participants made quite clear their opposition to the diversion of their products for the manufacture of chemical weapons.

Industry's offer of assistance, as the diplomats in Geneva seek to conclude negotiations on practical questions associated with treaty implementation, was welcomed wholeheartedly by the officials present at Canberra. As Mr. Noble concluded in his statement: "This dialogue is essential if we are going to fashion a convention that will work in practice, not just look good on paper." ■

Focus — On Seismic Verification

Focus is our column for secondary school students. We welcome your comments and suggestions for future topics.

Seismology

Seismology is the science of studying vibrations in the earth's crust. Vibrations occur during earthquakes or during smaller, less noticeable tremors. They also occur during underground explosions of nuclear devices. Any earthquake, tremor or explosion that causes vibrations is called a seismic event.

When a seismic event occurs, shock waves are transmitted through the earth. The waves are of two types: body waves, which travel quickly through the earth's mantle; and surface waves, which travel more slowly through the earth's crust. These waves can be detected and analyzed by equipment located up to 10,000 km away from where the event took place. By comparing the measurements of each series of waves, and the time between when they are received, seismologists can often determine where the event occurred and whether the event was an earthquake or an explosion.

The device used to measure vibrations in the earth's crust is called a seismometer. A seismometer usually takes the form of a metal canister, about 20 cm in diameter and 20 cm high, lined with a coil of wire. Inside the coil, suspended from the top of the canister by a spring, is a permanent magnet that is free to move up and down within the coil. The canister is buried in solid rock and any vibration in the earth will cause it to move up and down. The magnet, however, will tend to stay where it is, and the relative motion will induce a weak electrical current in the coil. This current is amplified and recorded on a moving roll of paper or on magnetic tape. It thus forms the basic measurement of a seismic event.

Nuclear Testing

A treaty called the Partial Test Ban Treaty (PTBT), signed in 1963, forbids the countries that signed it to explode nuclear devices in the atmosphere, in

outer space or under water. This means that the only place these countries are allowed to explode nuclear devices is underground. Countries may want to explode nuclear devices for a variety of reasons: to test nuclear weapons; to test the effects of nuclear explosions on other equipment; or to study the nuclear explosion process.

Many countries, including Canada, think that all nuclear explosions should be banned. Since countries would then no longer be able to test nuclear weapons by exploding them, the development of new, more sophisticated kinds of nuclear weapons would be difficult. A ban would also make it hard for countries that do not have nuclear weapons to develop them.

Seismic Verification

Canada has been active with other countries in seeking a Comprehensive Test Ban Treaty (CTBT). Such a treaty would ban all nuclear explosions in all environments (including underground) for all time. Canada participates in the talks related to a CTBT at the Conference on Disarmament in Geneva.

The ability to effectively verify a CTBT is very important to progress toward one. No country that has nuclear weapons is likely to give up its right to test and improve its nuclear arsenal unless it can be sure that other countries will be living up to a similar commitment.

The verification of a possible future CTBT will have to rely a lot upon seismologists, and their ability to detect and identify underground nuclear explosions. Seismic verification could act as a "trip wire." This means that if seismologists detected what they thought was a nuclear explosion, other means of verification could then be used to see whether or not the event was indeed an explosion.

Problems with Seismic Verification

Although seismic events can be monitored with considerable accuracy, there are still some problems with using seismology to verify a CTBT. For example, countries can try to hide their nuclear explosions by testing nuclear devices in

an area that is prone to earthquakes. Or, they can try to disguise the wave pattern of the nuclear test, so that it blends in with the seismic background noise usually found in the area. If an underground test is carried out in a large enough existing underground cavity, the seismic effects of the test will be muffled and distorted.

In addition, a huge number of seismic events occurs each year — over 10,000. It may not be practical to monitor and analyze all of them, and then re-analyze the ones that look suspicious using additional data from other sources. On the other hand, the attempt to do so could well discourage illegal nuclear testing by providing a good chance that potential treaty offenders would be caught.

Another problem is that nuclear weapon technology is constantly evolving, and one of the most dramatic trends is the movement toward smaller bombs. This means that future nuclear weapon tests will likely involve relatively smaller explosive devices and will therefore be far more difficult for seismologists to detect and pinpoint.

Efforts Continue

Despite all these problems, a lot of international research is underway to see just how effective an international seismic monitoring network might be in verifying a CTBT. Canada is playing a major role.

The most important international forum for the discussion of seismic verification techniques is the Group of Scientific Experts (GSE) associated with the Conference on Disarmament in Geneva. This is a group of seismological experts from many countries, including Canada. In January 1990, the GSE will begin a large experiment to exchange and process detailed seismic data provided by a number of seismic stations from countries around the world. A Canadian, Dr. Peter Basham of Energy, Mines and Resources Canada, is the global coordinator for the experiment. Canada's newly-modernized seismological array at Yellowknife will provide data for the experiment.

Conclusion

While experiments like the GSE's are crucial to the task of designing a seismic

Third Seabed Treaty Review Conference Held

monitoring network and demonstrating its potential for verifying a CTBT, most authorities agree that a CTBT will ultimately depend upon a genuine desire by all parties to make it work. No matter how effective a seismic verification network may one day be, a country may still be able to test small nuclear devices if it is determined to disguise these tests. The purpose of a seismic verification network would be to discourage such testing by making it very expensive for countries that wanted to violate the treaty to test secretly. Also, the violating country would risk being caught regardless of how it tried to avoid detection. In the end, however, the conclusion of a CTBT will depend essentially on political considerations rather than on purely scientific ones. □

The Third Review Conference of the Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil Thereof, more commonly known as the Seabed Treaty, took place in Geneva September 19-29, 1989. The Canadian delegation was led by Mr. P. MacKinnon, Counsellor and Consul, Permanent Mission of Canada to the Office of the United Nations at Geneva and to the Conference on Disarmament.

The Seabed Treaty prohibits the emplacement of nuclear weapons and other weapons of mass destruction on the seabed and the ocean floor beyond a

12-mile coastal limit. It was negotiated between 1968 and 1970 and entered into force May 18, 1972. Of the five nuclear weapon states, neither France nor China has signed the Treaty. Canada is a party to the Treaty.

Previous review conferences were held in Geneva June 20 — July 1, 1977 and September 12-23, 1983. Following article-by-article consideration of the Treaty, the Third Review Conference adopted a final document which concluded that the Treaty continues to demonstrate its effectiveness. It was decided that a fourth review conference would, in principle, be convened no earlier than 1996. □

Grants and Contributions from the Disarmament Fund, Fiscal Year 1989-90 To September 30, 1989

CONTRIBUTIONS

1. Canadian Federation of University Women — student essay contest: "What I am prepared to do for peace"	\$500
2. Dr. Jules Dufour — preparation of a university course on arms control and disarmament	\$1,900
3. Voice of Women — orientation tour of the UN Disarmament Commission	\$6,050
4. Peace Education Centre — Youth for Global Awareness Conference	\$4,000
5. Canadian Centre for Arms Control and Disarmament — Ballistic Missile Defence study	\$19,760
6. Science for Peace, Toronto Chapter — University College Lectures in Peace Studies	\$3,000
7. Centre de Ressources sur la Non-Violence — research on non-violent civil defence and common security	\$7,000
8. Polish-American Parliamentary Debate Institutes Canada — lecture tour of Poland	\$2,500
9. Inuit Circumpolar Conference — participation in Fifth Inuit Circumpolar General Assembly, Greenland	\$4,000
10. David Cox, Queen's University — peacekeeping workshop	\$18,000
11. Canadian Centre for Arms Control and Disarmament — conference on Canadian-Soviet Arctic cooperation	\$20,000
12. United Nations Association in Canada, Montreal Branch — UN General Assembly simulation	\$2,000
13. Political Studies Students' Conference, University of Manitoba — "End of the Cold War? Prospects for East-West Security in the 1990s" conference	\$4,500
TOTAL OF CONTRIBUTIONS	\$93,210

GRANTS

1. Dr. Michael Mephram — Language and Ideology: a study of the nature of the peace movement's participation in the arms control and disarmament debate	\$7,000
2. Canadian Student Pugwash — chemical weapons workshop at annual conference	\$9,488
3. William Epstein — participation at Pugwash Symposium, Dublin, May 5-7, 1989	\$320
4. Canadian Institute of Strategic Studies — publication of proceedings of seminar on "Nuclear Strategy in the 90s: Deterrence, Defence and Disarmament"	\$7,500
5. Canadian Peace Alliance — preparation of Canadian Peace Catalogue and Database	\$15,000
6. Project Ploughshares — preparation of manual on common security issues	\$17,000
TOTAL OF GRANTS	\$56,308
TOTAL OF GRANTS AND CONTRIBUTIONS	\$149,518