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RESPECTING:

Order of Reference respecting NORAD

CONCERNANT:

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INCLUDING

The Fourth Report to the House

Y COMPRIS:

Le Quatrième Rapport à la Chambre

First Session of the
Thirty-third Parliament, 1984-85-86

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—15	—15

(Quorum 8)

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Pursuant to Standing Order 70(6)(b)

On Tuesday, January 28, 1986:

Stan Darling replaced John Oostrom;
Fernand Ladouceur replaced Marcel Tremblay;
Patrick Crofton replaced David Daubney;
W. R. Bud Jardine replaced Jim Edwards;
Bill Kempling replaced Ricardo Lopez;
Allan Lawrence replaced John Reimer;
John Reimer replaced Gilbert Chartrand;
David Daubney replaced Stan Darling;
John Oostrom replaced Fernand Ladouceur;
Gilbert Chartrand replaced Patrick Crofton;
Stan Darling replaced W. R. Bud Jardine;
Fernand Ladouceur replaced Bill Kempling.

CANADA-U.S. DEFENCE COOPERATION

AND

THE 1986 RENEWAL OF THE NORAD AGREEMENT

February 14, 1986

THE STANDING COMMITTEE ON EXTERNAL AFFAIRS AND NATIONAL DEFENCE

has the honour to present its

FOURTH REPORT

In accordance with its Order of Reference dated Friday, June 14, 1985, your Committee has heard evidence and considered Canadian policy with respect to future defence cooperation with the United States in the North American region with particular reference to air defence and related arrangements embodied in and flowing from the North American Aerospace Defence Agreement.

CONTENTS

		Page
	Chairman's Foreword	xi
	Glossary	xv
	Introduction	1
I	**The Framework of Canada-U.S. Defence Cooperation**	3
	A. The Historical Context	3
	1. The Early Agreements	3
	2. Postwar Cooperation	4
	3. The Early Warning Lines	4
	4. The Establishment of NORAD	5
	5. The Defence Production and Defence Development Sharing Agreements	6
	B. The Institutions	6
	1. The Political and Informal Contacts	6
	2. The Permanent Joint Board on Defence	7
	3. The Canada-U.S. Military Cooperation Committee	9
	4. The Canada-U.S. Regional Planning Group	10
	5. Other Institutional Arrangements	11
	C. The Agreements	12
	D. The Arrangements for the Defence of North America	13
	1. Land Arrangements	13
	2. Sea Arrangements	14
	3. Aerospace Arrangements	15
II	**NORAD**	17
	A. Pre-1958 Arrangements	17
	B. The Changing Agreement	18
	1. 1958	18
	2. 1968	18
	3. 1973	19
	4. 1975	19
	5. 1980	19
	6. 1981	20
	C. The Mission of NORAD	20
	D. Command, Control and Consultation	21
	1. Headquarters	21
	2. The Regions	22

3. CINCNORAD 24
4. Deputy CINCNORAD 25
5. Consultations 25
E. The Changing Resources 26
1. The Evolution of NORAD's Resources 26
2. NORAD's Canadian Component 27
3. Plans for the Modernization of NORAD 27

III North American Defence in Strategic Perspective 33

A. The Present Context 33
1. Facts and Figures 33
2. General Considerations 35
3. U.S. Strategic Doctrine 35
B. The Threat and North America's Response 38
1. Soviet Strategy 40
2. The Main Threat: Ballistic Missiles 40
3. The Bomber/ALCM Threat 41
4. The SLCM Threat 41
5. The Land Threat 42
C. What of the Future? 42
1. Geneva and the Strategic Balance 42
2. Defence-Related Activities in Space 44

IV Canada's Traditional Concerns and Interests 49

A. Influence 49
B. Nuclear Weapons 51
C. Dependency in Foreign Policy 52
D. Economics 52
E. Sovereignty 53

V The Broad Issues Before the Committee 55

A. The Basic Options 55
1. The Case for Terminating the NORAD Agreement 55
2. The Case for Suspending Judgment 57
3. Three Very Different Cases for Renewal 57
4. The Case for Indefinite Renewal 60
B. The Major Questions 60
1. U.S. Strategy: Has It Changed? 61
2. The Strategic Defence Initiative: Do We Need an ABM Clause? 62
3. SDA 2000: Is It Dragging Us Into SDI? 63
4. Command Arrangements: NORAD? Space Command? or NORAD/Space Command? 63
5. The Bomber Threat: Do We Need to Upgrade Our Northern Defences? 64
6. Sovereignty: Does NORAD Help? 65
7. Withdrawal: Would It Be Costless? 66

C. Other Concerns 66
1. Northern Concerns 67
2. Concerns Over the Canadian Armed Forces Reserves 68
3. Parliamentary Concerns 68

VI Conclusions and Recommendations 71

A. General 71
B. Institutions 72
C. Defence Development/Defence Production Sharing Agreements 72
D. Military Cooperation on Land 73
E. Military Cooperation at Sea 74
F. Military Cooperation in Air and Space: NORAD 74
1. NORAD Renewal 74
2. The Special Case of the "ABM clause" 78
3. NORAD Resources 78
4. Space Considerations 79
G. Other Conclusions and Recommendations 80
1. The North 80
2. The Reserves 80
3. Parliament 81

APPENDIX A: The Canadian response to the U.S. invitation to participate in SDI research, September 7, 1985 xvii

APPENDIX B: Excerpts from two statements by the Secretary of State for External Affairs on matters relating to the ABM Treaty xix

APPENDIX C: The 1981 NORAD Agreement xxi

APPENDIX D: Summary of Conclusions and Recommendations of *Action for the Reserves*, a Report of the Standing Committee on External Affairs and National Defence, December 1981 xxv

APPENDIX E: List of Witnesses xxvii

APPENDIX F: List of Briefings xxxiii

APPENDIX G: List of Submissions xxxv

LIST OF TABLES

		Page
Table 1:	Canadian Personnel Available to NORAD, 1960-1985	28
Table 2:	Canadian and U.S. Contributions to NORAD, 1984-1985	28
Table 3:	U.S. and Soviet Quantitative Superiorities, January 1, 1980 and 1985	34
Table 4:	Changes in the Soviet Triad, 1970-1984	38

LIST OF FIGURES

Figure 1:	Organizational Charts — PJBD/MCC/CUSRPG	8
Figure 2:	NORAD and Related Commands:	23
	(a) With the Unified Space Command	23
	(b) Before Unified Space Command's Establishment	23
Figure 3:	Distribution of Command Responsibilities for Aerospace Defence of North America	23
Figure 4:	Reporting Relationships	24
Figure 5:	NORAD's Modernized Warning System	29
Figure 6:	Evolution of the U.S. and Soviet Triads, 1970-1984	39
	(a) Nuclear Delivery Systems	39
	(b) Nuclear Warheads	39

CHAIRMAN'S FOREWORD

The study of Canada-U.S. defence cooperation which the Committee has just completed has once again thrown into sharp relief the central nature of our defence relations with the United States. Our location in the path of nuclear missiles continues to ensure that, as the 1971 Defence White Paper pointed out, "the only direct external military threat to Canada's national security is that of a large-scale nuclear attack on North America". This guarantees that we will remain keen advocates of peace and arms control negotiations, but our geography also makes it imperative that we adopt a defence posture which meets our security requirements and those of our neighbour to the south. The relative sizes of our territory, population and defence budget incline us to seek and prefer collective defence approaches.

Technology, however, is challenging comfortable certainties and familiar assumptions. North American aerospace defence may be approaching a watershed. Washington has launched a major research program to determine whether it could defend its territory and that of its allies against intercontinental and submarine-launched nuclear missiles. Will the Strategic Defence Initiative (SDI research) make a ballistic missile defence possible? Some of us may have doubts; but if it does, and ballistic missile defence systems are deployed, will the world be more or less stable? Would the passing of the age of Mutual Assured Destruction, MAD, require Canada to deploy on its territory both ground-based ballistic missile defence systems and vastly increased arrays of air defence systems, from radars to surface-to-air missiles and interceptors? Or, on the contrary, would a system of missile defence enable the United States to dispense not only with Canada's geography, but with Canada's goodwill and counsel as well? And what would that do to Canada's military, industrial and technological links with the United States?

These are grave and disturbing questions with which the Committee has had to grapple, though it is clear that no final answer will be available for some time. Some of us, perhaps overestimating our influence in Washington and overlooking the impact of time, would prejudge the future and sever present links for fear of what tomorrow may bring. Others, who can conceive of no fundamental differences in the strategic interests of Canada and the United States or who underestimate the tendency of weapons programs to develop a momentum of their own, would have us ignore the shadows in the road ahead.

The Committee has chosen to hew a less dogmatic course. Its report acknowledges the challenges of the future, but declines to let them paralyze the present. The aerospace defence of North America involves four basic missions, illustrated in the figure below. Three — airspace surveillance (quadrant I), air defence (quadrant II), and ballistic missile warning (quadrant III) — have been NORAD's responsibility for some time. (It is unfortunate, in many ways, that "aerospace defence" was substituted for "air defense" in the name of the NORAD command in 1981. It would have been more accurate to rename NORAD the North American Air Defence and Aerospace Surveillance command.) The fourth — ballistic missile defence — reaches beyond NORAD's brief, into the bailiwick of the U.S. Unified

Space Command. It is a perfectly theoretical mission at present, since no means exist to carry it out. There is no reason to expect any SDI deployments in the next five years — and probably for much longer. Thus there seems to be no good reason *not* to renew NORAD until 1991. The combined command for North American aerospace defence remains clearly in the interest of both this country and its neighbour to the south.

	WARNING (Detection)	DEFENCE (Destruction)
Air-Breathing Threat (Bombers and Cruise Missiles)	*Quadrant I*	*Quadrant II*
Ballistic Missile Threat	*Quadrant III*	*Quadrant IV*

In five years, this Committee or its successor should have in hand answers to important questions concerning the Unified Space Command and SDI. It will also have the benefit of hindsight about U.S. directions under a new administration and the progress or outcome of East-West negotiations at Geneva. It may conclude that changes in strategies and policies require Canada to examine closely the value of both the Strategic Defence Initiative and NORAD. It may have to choose between NORAD and quadrant IV. This Committee did not have to do so. It faced a far less onerous challenge. For the next five years, the past will remain a reasonably sure guide to the future. Unless Canada chooses otherwise, NORAD's missions will continue to be confined narrowly to quadrants I, II and III. Since most people in Canada, it seems, have come to support NORAD's traditional missions and MAD, the Committee's message should be reassuring.

Throughout the report, we have tried to give both sides on any issue. The recommendations, however, are those of the majority of the Members. It will come as no surprise that there was not unanimity.

On behalf of the Committee, I would like to thank the Secretary of State for External Affairs and the Minister of National Defence for their invaluable assistance. Their personal appearances and commitment to the process were much appreciated.

We are grateful to the many experts and citizens groups who accepted our invitation, to those who sent us briefs, and to the numerous officials of the departments of National Defence, External Affairs, Supply and Services, and Regional Industrial Expansion, and of the Ministry of State for Science and Technology who helped with this study either at hearings and briefings or by preparing written answers to our questions. We would also like to give special thanks to the Commander-in-Chief and Deputy Commander-in-Chief of NORAD and their officers, and to the officials of the US State Department and the Pentagon who gave generously of their time and provided us with a great deal of very useful information. We are especially indebted to the men and women of the Canadian Armed Forces who, with their exemplary record of service, deserve better than the equipment many of them, especially those at sea, will have to operate for some time yet.

The Committee would also like to acknowledge the dedication of its staff. The quiet efficiency and attention to detail of our clerk, Bill Corbett, saw us flawlessly through a hectic schedule. The research and drafting team provided through the Parliamentary Centre for Foreign Affairs and Foreign Trade, Daniel L. Bon, Joel Sokolsky and Gregory Wirick, also served us well and responded unstintingly to the constant demands on their time made by the Chairman. Finally, the Committee wishes to give thanks to the translators of the Department of the Secretary of State who prepared the French version of this report, the teams of interpreters who facilitated communication at our hearings, and the numerous secretaries, word processor operators and employees of the House of Commons who toiled anonymously on our behalf.

William C. Winegard, M.P.,
Chairman

GLOSSARY

ABM	Anti-Ballistic Missile
ADCOM	(U.S.) Aerospace Defense Command
ADMP	Air Defence Master Plan
ALCM	Air-Launched Cruise Missile
ANG	(U.S.) Air National Guard
ASAT	Anti-Satellite (system)
ASM	Air-to-Surface Missile
ASW	Anti-Submarine Warfare
AWACS	Airborne Warning and Control System
BMD	Ballistic Missile Defence
BSP	Basic Security Plan
C^3	Command, Control and Communications
C^3I	Command, Control, Communications and Intelligence
CADIN	Continental Air Defence Integrated North
CDS	Chief of the Defence Staff
CINCNORAD	Commander-in-Chief, NORAD
CINCSPACE	Commander-in-Chief, United States Space Command (USC)
CUSRPG	Canada-United States Regional Planning Group (NATO)
DDSA	Defence Development Sharing Agreement
DEW	Distant Early Warning (Line)
DND	Department of National Defence
DOB	Dispersed Operating Base
DD/DPSA	Defence Development and Defence Production Sharing Agreement(s)
DPSA	Defence Production Sharing Agreement
FOL	Forward Operating Location
GLCM	Ground-Launched Cruise Missile
ICBM	Intercontinental Ballistic Missile
JCS	Joint Chiefs of Staff
JUSCADS	Joint U.S.-Canada Air Defence Study
km	Kilometer
LANDOP	(Canada-U.S.) Land Operation Plan
MAD	Mutual Assured Destruction
MARCOM	Maritime Command

MAREASTOP	(Canada-U.S.) Maritime East Operation Plan
MARPAC	Maritime Forces Pacific
MARWESTOP	(Canada-U.S.) Maritime West Operation Plan
MCC	Military Cooperation Committee
MIRV	Multiple Independently-Targeted Re-entry Vehicle
NATO	North Atlantic Treaty Organization
NORAD	North American Aerospace Defence Command (*until 1981*, North American Air Defence Command)
NSDD-13	(U.S.) National Security Decision Directive 13
NSDM-242	(U.S.) National Security Decision Memorandum 242
NWS	North Warning System
OTH-B	Over-the-Horizon Backscatter (radar)
PD-59	(U.S.) Presidential Directive 59
PJBD	Permanent Joint Board on Defence
RCAF	Royal Canadian Air Force
ROCC	Region Operations Control Centre
SACLANT	Supreme Allied Commander, Atlantic
SALT	Strategic Arms Limitation Talks *or* Treaty
SAM	Surface-to-Air Missile
SDA 2000	Strategic Defence Architecture 2000
SDI	Strategic Defence Initiative
SLBM	Submarine-Launched Ballistic Missile
SLCM	Submarine-Launched *or* Sea-Launched Cruise Missile
SSBN	Nuclear-Powered Ballistic-Missile Submarine
TAC	(U.S.) Tactical Air Command
USAF	United States Air Force
USC	(U.S.) Unified Space Command

INTRODUCTION

On June 14, 1985, the House of Commons ordered:

> That the Standing Committee on External Affairs and National Defence be empowered to hear evidence and consider Canadian policy with respect to future defence cooperation with the United States in the North American region with particular reference to air defence and related arrangements embodied in and flowing from the North American Aerospace Defence Agreement;
>
> That the Committee have the power to retain expert, professional, technical and clerical staff;
>
> That the Committee be empowered to adjourn from place to place within Canada and the United States; and
>
> That the Committee report and make recommendations to the House of Commons no later than Friday, February 28, 1986.

Following a quick review of the major issues over the summer, the Committee embarked on a series of trips across North America last fall. It held public hearings in Yellowknife, Vancouver, Edmonton, Saskatoon, Winnipeg, Halifax, and Ottawa, where witnesses from Toronto, Waterloo, Montreal, and Quebec City as well as the nation's capital were invited to give evidence. It was briefed by Canadian Armed Forces personnel, NORAD officers, officials of the Canadian departments of External Affairs, National Defence, Supply and Services, Regional Industrial Expansion, and the Ministry of State for Science and Technology. It also met with officials of the U.S. Defense and State departments. These meetings and briefings were held in North Bay, Ottawa, Colorado Springs, Yellowknife, Cambridge Bay, Esquimalt, Cold Lake, Winnipeg, Bagotville, Halifax, CFB Shearwater, and Washington. In addition, Members met privately with U.S. Congressmen in Washington and, in Ottawa, publicly with the Secretary of State for External Affairs and the Minister of National Defence, as well as with the Commander-in-Chief of NORAD (CINCNORAD), who had previously briefed them at his headquarters in Colorado Springs. In all, the Committee held 35 open meetings, was given 13 sets of briefings, collected 1,407 pages of evidence at public hearings, heard from 126 officials, individuals and groups, and logged 38,000 air kilometers and 81 flight hours between August 1 and December 13, 1985. The drafting of the report began on December 16, 1985. It was completed on January 29, 1986.

Chapter I of the report documents the framework of Canada-U.S. defence cooperation. It examines the historical and institutional dimensions of bilateral defence arrangements as well as the agreements which codify the relationship.

Chapter II focuses on NORAD. It gives special emphasis to the changes the accord has undergone over time, describes current arrangements, and sketches out plans for the future.

Chapter III situates North American defence issues in a strategic perspective. It examines relevant aspects of the East-West balance, assesses the threat to North America, and outlines the response with which Canada and the United States would plan to meet it. It also sketches some assumptions about the future and underscores the growing importance of space.

Chapter IV highlights some of the concerns and interests that North American defence and military cooperation with the United States have traditionally evoked in Canada.

Chapter V outlines the options put by the witnesses before the Committee. It also sums up their conflicting views on the major issues to be addressed.

In Chapter VI, the Committee draws its own conclusions and makes a number of specific recommendations.

Chapter I

THE FRAMEWORK OF CANADA-U.S. DEFENCE COOPERATION

A. The Historical Context

1. *The Early Agreements*

The concept of cooperation between Canada and the United States for the joint defence of North America was first articulated by President Roosevelt and Prime Minister Mackenzie King in 1938. The President affirmed in Kingston, Ontario that the people of the United States would "not stand idly by" if Canada were attacked. Two days later, Prime Minister King responded, "should the occasion ever arise, enemy forces should not be able to pursue their own way by either land, sea or air to the United States across Canadian territory".[1]

The outbreak of hostilities in Europe, Canada's early entry into the war more than two years before the United States and, above all, the fall of France in May of 1940 concerned both heads of government and encouraged them, by the Ogdensburg Declaration of August 18, 1940, to establish a Permanent Joint Board on Defence (PJBD). The PJBD was directed to commence immediate studies relating to sea, land and air problems and to consider "in the broad sense the defence of the north half of the Western Hemisphere". The diplomatic and military representatives who comprised the board met frequently during the war. Their recommendations dealt with the defence of coastal regions of northern North America as well as the "exchange of information, allocation and flow of material resources, coordination of aviation training, and disposition of defence facilities".[2]

Prime Minister King and President Roosevelt concluded in a second major agreement, the Hyde Park Declaration of April 20, 1941, that balance of payments problems would not be allowed to interfere with production for defence purposes in either country. The Ogdensburg and Hyde Park declarations — "pragmatic efforts to collaborate and coordinate where possible"[3] — laid the groundwork for continued defence cooperation following the cessation of hostilities.

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[1] James Eayrs, *In Defence of Canada: Appeasement and Rearmament* (Toronto, University of Toronto Press, 1976) p. 183.

[2] *Proceedings of the Standing Committee on External Affairs and National Defence*, October 1, 1985, p. 30:8 (hereinafter *Proceedings*).

[3] *Ibid.*, October 10, 1985, pp. 37:22-3.

2. *Postwar Cooperation*

The true cornerstone of collective defence of the continent was put in place on February 12, 1947 in a joint statement issued by the two governments.[4] Five principles were outlined upon which continental defence would be based: a) an interchange of personnel to promote better understanding; b) cooperation and exchange of observers for military exercises and weapons tests and development; c) standardization of arms, equipment, organization and methods of training; d) mutual and reciprocal availability of military, naval and air facilities in each country; and e) the sovereign control of each country over activities within its boundaries in all cooperative projects.

Underlying the close cooperation which informed the joint statement of 1947 was an increasing apprehension in both countries about the growth of Soviet power and the nature of Soviet objectives. Substantial investments by the USSR in atomic weaponry in the late 1940s and in long-range bombers with the capability to deliver these weapons to North American targets hastened the development of an extensive network of continental air defences on this continent.

3. *The Early Warning Lines*

Since the most direct route from the Soviet Union to the military, industrial and population centres of North America is via the pole, three electronic networks were constructed in Canada during the 1950s to give warning and coordinate North American defence against a Soviet bomber attack. In 1951 Canada and the United States agreed to extend the Continental Air Defence Integrated North (CADIN)-Pinetree Line, which had begun as a purely U.S. venture, along latitude 50° North, with the United States bearing two-thirds of the cost of the Canadian stations. The CADIN-Pinetree Line, completed in 1954, initially consisted of 39 radars which provided capability both for warning and for control of interceptor aircraft to counter the bomber threat.[5]

The year of its completion, 1954, saw agreements reached on the deployment of two additional early warning systems. The Mid-Canada Line or McGill Fence was positioned 500 km further north along the 55th parallel. It was not a radar line but an electronic screen which could detect but not track aircraft penetration. Designed, built and financed solely by Canada, its 98 stations were declared fully operational at the end of 1958.[6]

The third line, and the most ambitious from an engineering standpoint, was the Distant Early Warning or DEW Line, jointly conceived and planned, but funded and largely staffed by the United States. Strung along the 70th parallel about 350 km north of the Arctic Circle, it was completed by July of 1957. Expenses on the DEW Line's construction amounted to about three times those of the Mid-Canada Line.[7]

These land-based systems were supported by a variety of U.S. sensors designed to prevent "end runs" from either the Atlantic or the Pacific, including EC-121 *Super Constellation* long-range early-warning aircraft, U.S. Navy picket ships, and U.S. Air Force

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[4] *Ibid.*, p. 37:22.

[5] Special Committee of the Senate on National Defence, *Canada's Territorial Air Defence* (Ottawa, January 1985) p.5.

[6] Briefing by DND officials, August 26, 1985.

[7] *Proceedings*, October 9, 1985, p. 36:30.

(USAF) "Texas Tower" surveillance radars. Active Canadian defence in the mid-1950s consisted of nine squadrons of CF-100 interceptors (about 160 aircraft). The U.S. contribution amounted to some 75 regular force interceptor squadrons (some 2,100 aircraft) and 82 battalions (278 firing units) of *Nike* surface-to-air missiles (SAMs).[8]

The early warning lines placed a premium on tactical cooperation between the two national air defence systems. Extra warning time meant that the battle areas would be pushed northward and that, if required, U.S. interceptors could be called upon to help defend Canadian airspace. The lines and the extra time they provided also allowed "for a more rationalized air defence strategy across the entire continent. . . .Given that the 'forward' squadrons could be Canadian and the 'reserve' American, tactical cooperation between the Royal Canadian Air Force [RCAF] and the U.S. Air Force would become still more important".[9]

4. *The Establishment of NORAD*

In August of 1957, the logical next step was taken. With all three networks at or nearing completion, Canada joined with the United States to establish the North American Air Defence Command (NORAD) on an interim basis. It was, as distinguished Canadian scholar John Holmes has commented, not so much a new initiative as "an effort to rationalize the collective defence efforts on which we had been working for some years".[10]

The formal agreement was signed on May 12, 1958. It declared that the "problem of air defence of our two countries could best be met by delegating to an integrated headquarters, the task of exercising operational control over combat units of the national forces made available for the air defence of both countries".[11] The agreement further stated that "the agreed integration is intended to assist the two governments to develop and maintain their individual and collective capacity to resist air attack on their territories in North America in mutual self-defence".[12]

The original NORAD agreement was for a period of ten years. In 1968, it was renewed for a period of five years until 1973, when it was extended for an additional two years. In 1975, the agreement was again for five years, and then again extended in 1980 for a short period of one year. The last renewal, in 1981, was for a five-year period. In that year, NORAD was also redesignated as the North American Aerospace Defence Command. This change in name reflected the increasing significance of its "aerospace surveillance and missile warning related responsibilities".[13]

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[8] Space Command History Office, Colorado Springs.

[9] Joseph T. Jockel, "The Military Establishments and the Creation of NORAD", *The American Review of Canadian Studies* (Fall 1982) p. 2.

[10] *Proceedings*, October 10, 1985, p. 37:26.

[11] *Agreement between Canada and the United States of America*, Treaty Series 1958, No. 9, p. 4 (hereinafter *1958 NORAD Agreement*).

[12] *Idem.*

[13] *Exchange of Notes Between the Government of Canada and the Government of the United States of America Constituting an Agreement Concerning the Organization and Operation of the North American Aerospace Defence Command* (Ottawa, March 11, 1981) p. 2 (hereinafter *1981 NORAD Agreement*).

5. *The Defence Production and Defence Development Sharing Agreements*

The decision to participate in a joint command structure with the United States was followed in 1959 by the conclusion of the Defence Production Sharing Agreement (DPSA). Most observers regarded the DPSA as flowing naturally from Canada's growing commitment to defence cooperation with the United States. It was connected, more specifically, to the government's decision to cancel production of the Avro *Arrow* aircraft in view of the costs involved. Under the circumstances, a more cooperative approach to defence production seemed to be the only option, given both the fears raised by the *Arrow*'s cancellation for the future of Canadian defence industries and the substantial defence expenditures required by the newly-organized NORAD.[14]

The aim of DPSA was to strive for the most effective utilization by Canada and the United States of their respective industrial resources for common defence, with the immediate objective of increased participation by Canadian industry in the production and supply of North American defence equipment requirements. This was essential since Canada would continue to purchase the majority of its defence equipment from the United States.

The principle established in 1959 was that Canadian industry would have equal opportunity to compete with U.S. industry for most U.S. defence contracts on the normal commercial basis of price, quality and delivery. The U.S. government took two major steps to permit this equal opportunity. First, the *Buy American Act* restrictions were eliminated for a wide range of Canadian supplies used in the U.S. defence program and, second, U.S. government regulations were changed to permit duty-free entry for such goods.[15]

In order to compete effectively, however, Canadian firms needed to be involved in the actual development of at least selected defence articles. This appreciation eventually resulted, in 1963, in the conclusion of the Defence Development Sharing Agreement (DDSA) which established a framework for development by Canadian industry of items that might be required for the future needs of the U.S. military, with development costs to be paid by both governments. In return, Canada agreed to cooperate in maintaining a rough, long-term balance in reciprocal defence procurement.[16]

B. The Institutions

1. *The Political and Informal Contacts*

Considering how extensive and profound relationships between Canada and the United States are, the number of formal structures that are in place is surprisingly limited. Political contacts between the two heads of government — the U.S. President and Canadian Prime Minister — are frequent, if irregular. Since assuming the presidency of the United States in 1981, Ronald Reagan has visited Canada three times, once in connection with the 1981 Ottawa Summit of the seven leading Western industrial nations, and twice for bilateral consultations with the Prime Minister: in March of 1981 with Mr. Trudeau in Ottawa, and in March of 1985 with Mr. Mulroney in Quebec City. During the same period Canadian prime ministers have visited the U.S. capital on several occasions. Since the Mulroney-

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[14] William R. Willoughby, *The Joint Organizations of Canada and the United States* (Toronto, University of Toronto Press, 1979) p. 168.

[15] *Proceedings*, October 1, 1985, p. 30:9.

[16] Willoughby, *op. cit.*, pp. 171-72.

Reagan summit, there is an understanding that the two leaders will endeavour to meet annually for bilateral consultations, normally alternating between Canada and the United States.

The U.S. Secretary of State and the Canadian Secretary of State for External Affairs have recently met on a quarterly basis: once on the margin of the North Atlantic Council meeting, once on the margin of the Association of South East Asian Nations (ASEAN) meeting with the Canadian and U.S. "foreign ministers", once in Canada in the fall, and once in the United States in the spring. Relations between the U.S. Secretary of Defense and Canada's Minister of National Defence are less formalized, but they too confer frequently on the various aspects of the Canada-U.S. defence relationship. There is no equivalent, however, to the North Atlantic Council of North Atlantic Treaty Organization (NATO) countries, which meets twice a year in ministerial session. An attempt was made in the 1960s to set up a Canada-U.S. ministerial committee on defence, but it was not effective, largely because of scheduling difficulties.[17] In addition, each year the Canada-United States Inter-Parliamentary Group examines a diverse range of topics; both bilateral and multilateral defence and security matters are regularly considered.

Most contacts by far are informal ones. These contacts are varied and they are extremely frequent, "from telephone calls to one-hour air flights to Washington by multitudes of public servants", as a former chairman of the International Joint Commission, reflected recently.[18] John Anderson, Assistant Deputy Minister (Policy) at the Department of National Defence (DND) added, "a great deal nowadays, and particularly a great deal of the coordination, the planning, the negotiation, goes on directly between the various experts in the two capitals without necessarily engaging the institutional framework".[19] There is also, of course, the host of conferences and seminars on both sides of the border that are a constant in government, military, industry and academic circles and which should not be underestimated in terms of the contacts made, the coalitions forged, or simply the new ideas that are stimulated.

2. *The Permanent Joint Board on Defence*

The PJBD, the first formal defence institution set up jointly by the two countries, is a political-military advisory body which makes recommendations to the respective governments on bilateral defence questions.[20] Its first meeting took place on August 26, 1940 in Ottawa. Thereafter the meetings were fairly frequent for the duration of the war: five in 1940, eight in 1941, eleven in 1942 (the first year following U.S. entry into the war), seven in 1943, and five in both 1944 and 1945. Since then the average has declined to about three meetings a year.

The organization of the board has not altered substantially since its inception. From the outset, it has been composed of two national sections with each country represented by a chairman and by a senior representative of each of the three military services, the U.S.

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[17] *Proceedings*, October 2, 1985, p. 32:32.

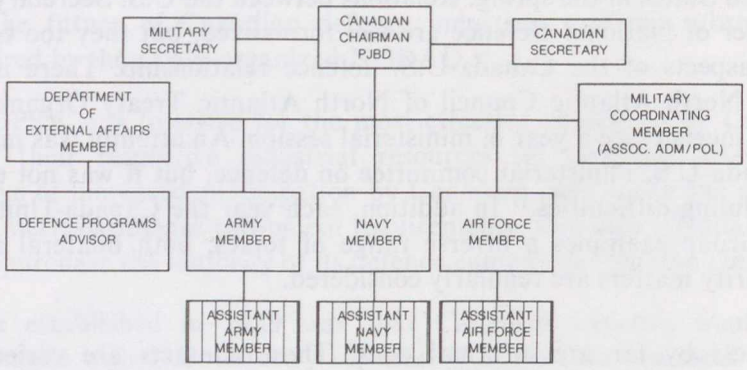
[18] Maxwell Cohen, "Canada and the U.S. — new approaches to undeadly quarrels," *International Perspectives* (March-April 1985) p. 17.

[19] *Proceedings*, October 2, 1985, pp. 32:28-9.

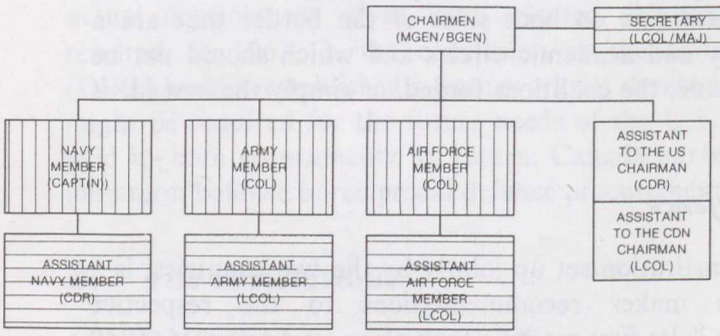
[20] *Ibid.*, p. 32:24-25.

FIGURE 1: Organizational Charts — PJBD/MCC/CUSRPG

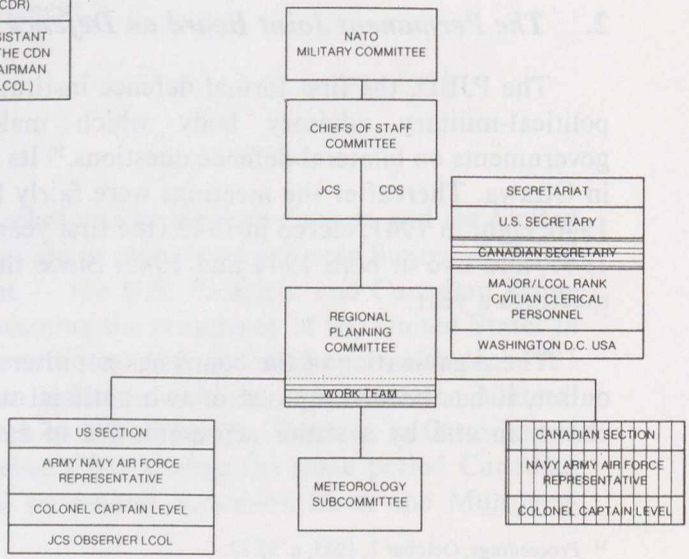
CANADIAN SECTION
PERMANENT JOINT BOARD ON DEFENCE



MILITARY COOPERATION COMMITTEE



CANADA-UNITED STATES REGIONAL PLANNING GROUP



Overlaps in Membership

General Overlap

Overlap between MCC and CUSRPG

Source: Directorate of Continental Policy, DND

departments of State and Defense and the Canadian departments of External Affairs and National Defence. The chairman of each national section is appointed by, and reports to, the President of the United States or the Prime Minister of Canada, respectively. Both the diplomatic and the military members of the board hold other routine responsibilities in their home departments; thus, between meetings they are in daily touch with the issues under consideration and government policy with respect to those issues.

While the PJBD has no executive powers, its deliberations have certainly influenced the course of events on the substantive matters that it considers. They have often provided the basis for formal bilateral agreements. A great deal of the negotiations for the DEW Line and for NORAD, for example, were carried on within the PJBD just as, more recently, the initiative to start negotiations on the modernization of the North American air defence system was taken by the PJBD.[21] In recent years the board has been somewhat less influential, but the leaders of Canada and the United States agreed in Quebec City in March 1985 that it should play a more important role.

3. *The Canada-U.S. Military Cooperation Committee*

In 1946, on the recommendation of the PJBD, the Military Cooperation Committee (MCC) was formed to initiate a full and comprehensive exchange of military information between Canada and the United States. Three years later, in 1949, the MCC became a committee separate from the PJBD. Today it is responsible directly to the Canadian Chief of the Defence Staff (CDS) and to the U.S. Joint Chiefs of Staff (JCS).

MCC objectives are: a) to maintain the security of the Western hemisphere[22] against military incursions detrimental to North American defence interests; b) to provide an effective deterrent to aggression on any scale; and c) in the event of war, to ensure the security and survival of Canada and the United States as free nations.[23] The MCC is the primary binational military agency concerned with recommendations relative to military policy and planning for the defence of North America and such other mutual defence matters as may be referred to it.

Since 1946 one of the principal activities of the MCC has been to prepare and maintain the Canada-U.S. Basic Security Plan (BSP). This plan brings together, in one document, the entire spectrum of Canada-U.S. regional defence. It establishes the general approach, the command and responsibility framework, and key aspects of operational and logistic support coordination essential to effect bilateral defence planning and operations.[24] During peacetime the plan is used for training and exercise purposes and as a basis for developing complementary plans. It becomes fully implemented under the following emergency conditions: a) when directed by the Canadian CDS and the U.S. JCS; b) automatically, upon declaration of an air defence emergency by the Commander-in-Chief of NORAD; or c) automatically, upon ratification of a NATO general alert of both Canada and the United States.

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[21] *Ibid.*, p. 32:33; see also Willoughby, *op. cit.*, p. 123.

[22] John Anderson indicated that the MCC's geographical area of responsibility pertained strictly to Canadian and U.S. territory and that the reference in the MCC's objectives to "security of the Western hemisphere" should not be interpreted in any other sense. (*Proceedings*, October 2, 1985, p. 32:29.)

[23] *Ibid.*, p. 32:25.

[24] *Ibid.*, October 3, 1985, pp. 33:18-19.

There are six basic supporting plans to the BSP. They are:

- OPLAN 3000 for the air defence of the North American continent;
- OPLAN 3003 for the augmentation of strategic air defence forces;
- CANUS MAREASTOP for Canada-U.S. maritime defence in the Atlantic;
- CANUS MARWESTOP for Canada-U.S. maritime defence in the Pacific;
- CANUS LANDOP for Canada-U.S. land operations; and
- CANUS Mapping and Charting Plan.[25]

4. *The Canada-U.S. Regional Planning Group*

The Canada-United States Regional Planning Group (CUSRPG) is the last of the original five regional planning groups set up by NATO in 1949. By 1952 the functions of all the regional planning groups except CUSRPG were assumed by the three major NATO commanders: Supreme Allied Commander Atlantic (SACLANT), Supreme Allied Commander Europe (SACEUR), and Commander-in-Chief, Channel (CINCHAN). In view of the indirect threat to North America at that time as well as European defence priorities and the already strong bilateral defence relationship between Canada and the United States, a supreme command was not considered necessary by either country. CUSRPG maintains a General Defence Plan for the region and the plan and all amendments are duly forwarded to the NATO Military Committee.

CUSRPG's terms of reference specify the following responsibilities: a) to the NATO Military Committee for coordinating the defence of Canada and the United States; b) to prepare, approve and forward plans to the NATO Military Committee; and c) to maintain liaison with NATO's Military Committee, commands and agencies. The organization of CUSRPG has remained essentially unchanged since 1949. The Chiefs of Staffs Committee, composed of the Canadian CDS and the U.S. JCS, reports to the NATO Military Committee.[26]

North American defence plans must be coordinated with the plans of other NATO military commands to ensure harmony. Similarly, it is a requirement that NATO as a whole be assured of the adequacy of defence measures for the North American region, because of the vital strategic importance of the continent and the need to maintain the credibility of the nuclear deterrent to the Alliance. Not surprisingly, CUSRPG's General Defence Plan and the Basic Security Plan of the MCC are virtually identical in objective and content, and both plans are reviewed and approved by the Canadian Chief of the Defence Staff and the U.S. Joint Chiefs.

The assistant members of the PJBD also serve as MCC members and as CUSRPG planning committee members. These overlapping memberships (see Figure 1) establish valuable continuity among the three organizations and increase the effectiveness of Canada-U.S. defence planning arrangements and, therefore, of combined defence efforts.

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[25] *Ibid.*, October 2, 1985, p. 32A:15.

[26] *Ibid.*, p. 32:26.

5. *Other Institutional Arrangements*

There are a host of other institutional arrangements organized on a less formal basis than the three bodies described above. For example, as part of the joint planning procedures of the two countries a joint assessment of the threat to North America is prepared annually by the U.S. and Canadian military intelligence communities.[27] Closer links are being developed in industrial base planning that build on the long history of defence industrial cooperation between the two countries. Since 1970, Canada has participated, for instance, in the U.S. Defense Production Preparedness Planning Program, which gives it "a unique status" in the U.S. defence procurement system compared to other allies which also have defence-sharing arrangements with the U.S. government.[28] The program has designated as registered planned producers some 115 Canadian companies that produce goods the availability of which the U.S. Defense Department wants to guarantee at all times.[29] These firms are always entitled to bid for the restricted procurement under this program and are also more visible to U.S. prime contractors. As well, they can gain partial exemptions from the U.S. small business "set aside" regulations, which reserve a portion of U.S. defence contracts for small American manufacturers and thus limit the access of Canadian sub-contractors.[30]

Other less formalized institutional arrangements include the U.S. Priorities and Allocations System for defence requirements as well as the cooperative logistics arrangements between the two countries. As a result of Prime Minister Mulroney's visit to Washington late in 1984, a team of U.S. procurement experts undertook, with Canadian government assistance, a seven-city tour early in December 1984 to help industry representatives across the country to understand some of the intricacies of bidding on U.S. Department of Defense contracts. In the spring of 1985, Canadian government officials and industry representatives took part for the first time in an industrial base planning workshop involving the Pentagon and the individual U.S. military services. The next workshop in the series was held in Ottawa at the end of October 1985. Canada's Department of Supply and Services is involved in a variety of individual analyses of different sectors of the economy in cooperation with its U.S. counterparts.[31]

Prime defence contracts between the two countries are administered by agencies of the respective national governments. For example, audit, quality control and inspection services are at present provided free of charge to U.S. firms by the departments of Supply and Services and National Defence as well as by the Canadian Commercial Corporation.[32] Reciprocal arrangements ensure that the same services are available for Canadian firms with contracts in the United States. In addition, there is a U.S. Defense Contract Administration Services Management Area in Ottawa consisting of about ten U.S. officials who assist in the servicing of prime contracts in Canada.[33]

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[27] *Ibid.*, p. 32:32.

[28] *Ibid.*, November 28, 1985, p. 50:7.

[29] *Ibid.*, October 2, 1985, p. 32:17.

[30] *Ibid.*, November 28, 1985, p. 50:7.

[31] *Ibid.*, October 3, 1985, p. 34:12.

[32] John Simons of Canadian Marconi indicated that plans are being made for the Canadian Commercial Corporation to charge "a user fee of up to three percent of the contract value for its services. This is totally at cross purposes with efforts by other parts of the same Department of External Affairs and by other government departments to promote greater sales of Canadian defence products to the U.S., as such a move will be viewed by the U.S. Department of Defense as another reason not to buy in Canada". (*Ibid.*, November 21, 1985, pp. 48:20-21.)

[33] U.S. Defense Contract Administration Management Services Area, Ottawa.

There are also mechanisms for managing the Defence Development and Defence Production Sharing Agreements (DD/DPSA). A steering committee is co-chaired by the Department of External Affairs at the assistant deputy minister level and by the U.S. Department of Defense at an equivalent level. Participants in that committee include DND's Assistant Deputy Minister (Materiel), the Assistant Deputy Minister for the Industries Branch of the Department of Regional Industrial Expansion, and representatives of the Department of Supply and Services and the Canadian Commercial Corporation. The steering committee has several sub-committees, among them one on technology transfer and another on the defence industrial base.[34]

C. The Agreements

The Secretary of State for External Affairs, the Right Honourable Joe Clark, indicated to the Committee that there are at least 2,500 documents relating to defence matters between Canada and the United States for the period 1940-1985. He went on to add, however, that many are no longer current and that "it would be a gross misconception to suggest that there are some 1,500 or 1,700 documents that are relevant today".[35] A list of 356 unclassified agreements was provided to the Committee by the Department of National Defence. These agreements cover every aspect of the bilateral defence relationship and can be categorized as follows: 37 agreements relating to air defence; 23 to aviation; 41 to communications; 38 to cross-border issues; 61 to logistics; 8 to the DD/DPSA; 9 to maritime operations; 7 to meteorology; 14 to navigation; 11 to nuclear-related matters; 46 to research and development; 10 to search and rescue; 13 to shared or leased bases; and 38 miscellaneous agreements most of which deal principally with recommendations of the PJBD.[36]

According to DND's Division of Parliamentary Affairs, the only new unclassified agreements entered into since the list was compiled in 1980 are:

- the NORAD Agreement of March 11, 1981;
- The Umbrella Agreement on Test and Evaluation of U.S. defence systems in Canada of February 10, 1983;

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[34] *Proceedings*, October 2, 1985, pp. 32:9-10.

[35] *Ibid.*, December 4, 1985, p. 51:15.

[36] This list was the subject of some controversy during the course of the Committee's hearings. A similar list prepared for this Committee during its 1980 hearings on the renewal of NORAD and circulated to at least some of the Members at that time showed eight agreements which did not appear in the list distributed to Members in August 1985. Toward the end of the 1985 hearings, the missing titles were made available to the Committee when it met with U.S. defence analyst William Arkin in Washington, D.C. Precisely how Mr. Arkin obtained the complete list was unclear. The eight missing titles were the following:

No. 3 Exchange of Notes on Consultation prior to the Release of Nuclear Weapons (date in force — August 16, 1962);
No. 6 Exchange of Notes on an Agreement Between Canada and the USA to govern the Establishment of a Distant Early Warning System in Canadian Territory (May 5, 1955; of 10-year duration);
No. 20 Agreement on Storage of Nuclear Weapons (September 1963);
No. 34 Strategic Air Command/NORAD Command Agreement for SNOWTIME Exercises (January 1, 1976; of indefinite duration);
No. 219 Exchange of Notes on the Operation of U.S. Nuclear Powered Warships in Foreign Ports (March 18, 1969; of indefinite duration);
No. 252 Exchange of Letters Giving Formal Effect to the "Security Agreement Between Canada and the United States of America" (September 15, 1950; of indefinite duration);
No. 290 Exchange of Notes on Conditions Under Which Storage of Nuclear Anti-Submarine Weapons in Canada, For Use of U.S. Forces, Would be Permitted (July 27, 1967; of indefinite duration);
No. 306 Exchange of Notes and Statement of Conditions Governing the Maintenance and Operation of Upper Atmosphere Research and Cold Weather Testing Facilities at Fort Churchill (June 14, 1960; of indefinite duration).

- the cruise-missile testing agreement of July 15, 1983; and
- the Agreement on the Modernization of the North American Air Defence System of March 18, 1985.

D. The Arrangements for the Defence of North America

1. *Land Arrangements*

The Canada-U.S. Land Operation Plan (LANDOP) is a supporting plan to the Basic Security Plan developed by the Military Cooperation Committee. It provides for the coordinated employment of Canadian and U.S. forces for the defence of North America's land area, i.e., the continental United States, Canada including the Arctic archipelago, mainland Alaska, and the Aleutians.

The Commander of Canada's Mobile Command is responsible for planning and providing combat-ready resources, along with a U.S. colleague, the Commander-in-Chief of Readiness Command (REDCOM), for the defence of North America's land area. They develop contingency plans and conduct exercises on a regular basis at both small and larger-size unit levels. During training exercises, priority consideration is given to interoperability, standardization of procedures, and training under difficult climatic conditions and different levels of threat.

The chief land threat to Canada's peacetime sovereignty would arise from an inability to project authority in the vast area remote from the narrow strip along the U.S. border where most Canadians live. One possible, though not likely, scenario would involve small-scale Soviet lodgments and commando-type raids in the North against the early warning and air defence radars, airfields, or key industrial targets such as oil rigs. The true intent, however, might simply be to upset planning prior to a larger assault in Europe and thereby distract and reduce the national will to deploy Canadian forces in Europe while an enemy presence remains on Canadian soil.

The general concept of operations in the North, bearing in mind the special conditions that climate and terrain impose, is based on surveillance and reconnaissance capabilities as well as, ultimately, defensive operations. If defensive operations were required, the Special Service Force, with its primary resource the Canadian Airborne Regiment, is capable of forming an airborne battle group of approximately 1,100 paratroopers on short notice. If a joint Canada-U.S. operation were called for, U.S. land and tactical air support could be provided by the U.S. REDCOM, the Alaskan Air Command or the Joint Task Force, Alaska. Any U.S. forces operating in Canadian territory would be under Canadian operational control.

As might be expected, Canada's contribution to the defence of the North American land area would depend on the size of the threat and on troop requirements in Europe. The land forces in Canada, less those which might conceivably have already been dispatched to meet our commitments to European defence, are available for the defence of North America.[37] According to a 1982 Senate report, augmentation of our contingent in Germany and dispatch of the Canadian Air-Sea Transportable (CAST) brigade group to Norway

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[37] *Proceedings*, October 3, 1985, pp. 33:20-21.

would leave "two battalion groups consisting of a total of 2,000-3,000 men".[38] Brigadier-General George Bell (ret.) cited an estimated requirement for two brigade groups.[39] Moreover, a large number of the 16,000 reservists who serve in the Militia would not be available in an emergency for reasons ranging from age to professional activities classified as essential.

2. *Sea Arrangements*

A significant asymmetry exists between Atlantic and Pacific maritime operations deriving from the fact that, whereas the Atlantic is a NATO region, the eastern Pacific is not part of NATO and, consequently, is subject to strictly bilateral arrangements with the United States.

The BSP designates the Commander of Maritime Command (MARCOM), who is based at Halifax, as the Canadian commander responsible for Canada-U.S. maritime planning and operations. Due to the geographical separation of the major forces of the Canadian navy and the unique requirements of each coast, the Commander of MARCOM has delegated authority for Canada-U.S. planning and operations on the West coast to the Commander of Canadian Maritime Forces Pacific (MARPAC). Both commanders plan and conduct operations in peace and are prepared, in the event of war, to defend their respective areas.

MARCOM assets include 20 destroyers, 3 submarines, 3 operational support ships, and 30 minor vessels. Air assets under MARCOM's operational command consist of 18 *Aurora* long-range patrol aircraft, 18 *Tracker* short-range patrol aircraft and 35 *Sea King* helicopters. Its personnel currently numbers 9,225 regular force members, 3,215 naval reservists and 6,695 civilian employees, for a total of 19,135 persons.[40]

Although wartime operations in the Atlantic would come under NATO, the basic document for East coast activities is the Canada-U.S. MAREASTOP plan. It has been approved by the Chief of the Defence Staff and the U.S. Joint Chiefs of Staff. This plan develops the framework for planning, force posture and operations in the Atlantic. Operational details for MAREASTOP are contained in the Canada-U.S. Maritime East Operations Order. It provides detailed direction and guidance for the coordinated operations of the forces of both countries in peacetime and war for the mutual maritime defence of North America. Coordinated logistics support, training, and command and control relationships are among the numerous items dealt with in the Order.

At a state of high alert all of our Atlantic destroyers, submarines and maritime patrol aircraft would be transferred to the operational command of NATO's SACLANT who would reassign available Canadian or American forces to his Canadian NATO subordinate Commander, the Commander of the Canadian Atlantic sub-area (who is also the Commander of Maritime Command) to address the threats in his area. In addition, two West coast destroyers and the four maritime patrol aircraft at CFB Comox could be transferred to NATO operational command.[41]

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[38] Subcommittee on National Defence, Standing Senate Committee on Foreign Affairs, *Manpower in Canada's Armed Forces* (Ottawa, January 1982) p. 18.

[39] *Proceedings*, November 20, 1985, p. 46:7.

[40] Directorate of Continental Policy, DND.

[41] *Proceedings*, October 3, 1985, pp. 33:19-20.

A parallel arrangement has been devised for Canada-U.S. maritime defence in the Pacific, where Canada's only defence arrangements are with the United States. The guiding document is the MARWESTOP plan. Detailed directions are contained in the Pacific Maritime Operations Order and the Commander of MARPAC is responsible for planning the conduct of Canada-U.S. operations on the West coast. Implementation of the NATO plans, however, would leave very little in the way of Canadian maritime forces for unilateral or bilateral operations in the Pacific.

This is a problem because an East-West conflict is unlikely to remain confined to the Atlantic. Several contingency plans unique to the West coast are being developed. These consist of a plan for the defence of the vital Strait of Juan de Fuca, a plan to protect the northeast Pacific sea lines of communications — the shipping lanes for oil tankers between oil terminals at Valdez, Alaska and refineries on the West coast of the United States — and a plan for the protection of shipping in the mid-Pacific.[42]

3. *Aerospace Arrangements*

The most important arrangements for the security of North America are those concerning air defence and aerospace surveillance. This reflects the fact that intercontinental ballistic missiles and long-range airborne systems constitute the greatest threat to this continent. Accordingly, it is the only area where there exist bilateral peacetime arrangements for a combined command — NORAD, examined in Chapter II.

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[42] *Idem.*

Chapter II

NORAD

A. Pre-1958 Arrangements

"The strategic logic of North American geography, the changing technology of air defence, and the closeness of the Canadian and American air forces" were the trendlines of the 1950s, writes a historian of the period, "making it increasingly likely that some kind of joint command would be formed by the time the air defence system was completed".[1] Cooperation between the national air forces grew steadily as both countries deployed more interceptors and constructed the panoply of warning stations in the North. Generally, formalities were worked out by the Permanent Joint Board on Defence.

In 1951, PJBD Recommendation 51/4 established procedures whereby fighter aircraft could cross the international boundary — as an enemy aircraft approached it — to carry out interceptor operations. Recommendation 51/6, approved in early 1952, provided for deployment of each country's interceptors to the other country's bases in specified circumstances. In both instances, all interceptors would be under the operational control of the country in which they were located. Coordination was further enhanced by PJBD Recommendation 53/1 which augmented 51/4 by permitting the interception of aircraft by fighters of one country in the airspace of the other if the second country's air defences were unable to intercept with their own forces. Thus an intruding aircraft's proximity to the border was no longer deemed a prerequisite for the ally's interceptors to be dispatched.[2]

The stage was set for the integration of the command structure itself in NORAD, agreed in principle in August 1957. In a brief to the Committee, Cynthia Cannizzo of the University of Calgary delineated the rationale for taking this step:

> the joint nature of the threat; the need for warning as far forward as possible to give time for defence mobilization; close cooperation between the U.S. and Canada already existed and having a formal structure with joint command would give a coherence to various programs and activities; and finally, joint command would ensure a Canadian voice in enterprises which could otherwise be carried out by the U.S. regardless of Canadian wishes.[3]

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[1] Jon B. McLin, *Canada's Changing Defense Policy, 1957-1963* (Baltimore, The Johns Hopkins Press, 1967) p. 39.

[2] Jockel, *op. cit.*, p. 3.

[3] Brief of Dr. Cynthia Cannizzo, p. 10.

B. The Changing Agreement

1. *1958*

The initial NORAD Agreement, signed on May 12, 1958, formalized arrangements made in August of the preceding year. The document recalled earlier efforts to coordinate air defence and concluded that "the problem of the air defence of our two countries could best be met by delegating to an integrated headquarters . . . operational control over combat units . . . made available for the air defence of the two countries". The Agreement emphasized "the importance of the fullest possible consultation between the two Governments on all matters affecting the joint defence of North America".

Eleven principles were defined to govern the NORAD Command. The most important of these stated that:

- CINCNORAD "will be responsible to the Chiefs of Staff Committee of Canada and the Joint Chiefs of Staff of the United States . . . [and] will operate within a concept of air defence approved by the . . . two Governments" (Principle 1);
- NORAD "will include such combat units and individuals as are specifically allocated to it . . . [and CINCNORAD's] jurisdiction . . . is limited to operational control" (Principle 2);
- As defined, "operational control" would allow for "*no permanent changes of station*"[4] for aircraft allocated to NORAD, although "temporary reinforcement . . . including the crossing of the international boundary . . . will be within the authority of commanders having operational control" (Principle 3);
- "The appointment of CINCNORAD and his Deputy must be approved by the Canadian and United States Governments. They will not be from the same country . . . ". The agreement also called for a "joint staff composed of officers of both countries" and made it clear that in the absence of CINCNORAD "command will pass to the Deputy Commander" (Principle 4);
- The agreement would be maintained for a period of ten years, though its term could "be reviewed upon request of either country at any time" (Principle 9).[5]

2. *1968*

The first renewal of NORAD, which took effect May 12, 1968, extended the agreement for five years rather than the initial ten. The new text endorsed the rationale for NORAD provided in the original agreement, but it introduced two key changes. First, it went beyond the original provision that a review of the agreement might be undertaken "at any time at the request of either party" to make clear that it could "be terminated by either Government after such review following a period of notice of one year". Secondly, in what was to become known as "the ABM clause", the agreement specified that it would "not involve in any way a Canadian commitment to participate in an active ballistic missile defence".[6]

[4] Emphasis added.

[5] *1958 NORAD Agreement*, pp. 4-6.

[6] *Agreement between Canada and the United States of America*, Treaty Series 1968, no. 5, p. 2 (hereinafter *1968 NORAD Agreement*).

3. *1973*

The second renewal of NORAD came into force on May 10, 1973 and simply extended the 1968 agreement without alteration for a two-year period. As set forth in the renewal letter forwarded by the Canadian ambassador to the U.S. Secretary of State, the short time span of the renewal was due to the "additional time . . . required to examine the component elements of the concept for a modernized air defence system [then] under development". The letter went on to state that "further joint consultations [would] undoubtedly be needed in order that our two governments will be able to consider and decide upon the extent of modernization that will satisfy future requirements for the joint defence of North America, taking into account the evolving strategic situation, including developments in the Strategic Arms Limitation Talks".[7]

4. *1975*

The third renewal document, which took effect on May 12, 1975, was the first to recast the framework of the agreement and to consolidate textual and other changes. The document acknowledged that since 1958 there had been "significant changes in the character of strategic weapons and in the nature of the threat they pose to North America". This had resulted in "the enhancement of mutual deterrence" and degraded — though not entirely removed — the threat of long-range bombers.[8]

The accord contained several new elements. It committed each government to establish a joint civilian-military system to carry out surveillance and control in peacetime in conjunction with NORAD's air defence operations. This decision led to the creation of a U.S. Joint Surveillance System (JSS) radar network around the periphery of the country. In Canada, however, the proposed integration of civilian and military radars never took place.

The new text formally recognized space suveillance as a legitimate dimension for NORAD's activities. Yet, despite the signing by the United States and the Soviet Union of the 1972 ABM Treaty and of the 1974 amendment to the treaty, the 1968 reservation concerning active ballistic missile defence remained. NORAD's basic aims were also changed, reflecting the new strategic preoccupation with missiles rather than the bomber threat. The new emphasis for NORAD, therefore, was on "providing capabilities for warning of attack and for defence against air attack".[9]

5. *1980*

The continuing debate in Canada on the merits of the NORAD relationship was the chief reason for the abbreviated term of the extension which took effect on May 12, 1980 for the period of a single year. Recognizing that an election was in the offing, the Cabinet wished to give itself additional time to consult Parliament.

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[7] *Exchange of Notes between Canada and the United States of America*, Treaty Series 1973, no. 17, p. 2 (hereinafter *1973 NORAD Agreement*).

[8] *Exchange of Notes between Canada and the United States of America*, Treaty Series 1975, no. 16, p. 2 (hereinafter *1975 NORAD Agreement*).

[9] *Ibid.*, p. 4.

6. *1981*

The latest renewal was signed in Ottawa on March 11, 1981 and took effect on May 12 of that year. Space, formally acknowledged as a legitimate sphere for NORAD activities in 1975, was given further recognition by NORAD's change of title from North American *Air* Defence to *Aerospace* Defence Command. The new accord noted, "there has . . . been an increasing use of space for strategic and tactical purposes". It further stated, "in view of the increasing importance of space to the defence of North America, our Governments will seek ways to enhance cooperation . . . in the surveillance of space and in the exchange of information on space events". Finally, the description of one of NORAD's primary objectives was expanded from "warning of attack and . . . defence against air attack" to include "aerospace surveillance, warning and characterization of aerospace attack and defence against air attack".[10]

The 1981 agreement involved another change. The so-called ABM clause, added to the NORAD agreement at its first renewal in 1968 to deny that the accord could "in any way" involve "a Canadian commitment to participate in an active ballistic missile defence", was deleted although it had been a feature of each intervening agreement. According to C.R. Nixon, who was Deputy Minister of National Defence at the time of the renewal, the ABM clause was omitted "because, at that time it seemed to be a *non sequitur*" and "it was addressing what was, in 1981, a hypothetical situation".[11] Officials have laid particular stress on this fact since, in the interval between 1968 and 1981, the United States had signed the ABM Treaty and, unlike the Soviet Union, had not maintained the ballistic missile defence (BMD)[12] system allowed it under the terms of the treaty's amendment of 1974. In answer to a question on this point, the Rt. Hon. Joe Clark, Secretary of State for External Affairs, told the House of Commons in February of 1985, "I have naturally inquired as to why the Liberal government agreed to that deletion . . . I am informed that, in fact, that particular clause was deleted precisely to avoid any suggestion that either Canada or the United States might take actions which would breach the ABM Treaty".[13] Other observers have suggested that defence officials did not want to foreclose any options.[14]

C. The Mission of NORAD

NORAD's original mission, as defined in the 1958 Agreement, was "to counter the threat [posed by the advent of nuclear weapons] and to achieve maximum effectiveness of the air defence system". To accomplish this objective, it was further stated that "defensive operations must commence as early as possible and enemy forces must be kept constantly engaged".[15]

In 1975 the mission was changed. The rapid attrition of active — and even passive — air defence resources over the previous years altered the original view that "enemy forces must be kept constantly engaged". Henceforth NORAD's role would be:

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[10] *1981 NORAD Agreement*, p. 4.

[11] *Proceedings*, October 10, 1985, p. 38:7.

[12] Weapons capable of destroying incoming ballistic missiles were first referred to as anti-ballistic missile or ABM systems. In recent years, the term ballistic missile defence or BMD has become more common.

[13] *Hansard*, February 4, 1985, p. 1961.

[14] Winnipeg Coordinating Committee for Disarmament, *Proceedings*, November 7, 1985, p. 42:87.

[15] *1958 NORAD Agreement*, p. 2.

a. to assist each country to safeguard the sovereignty of its airspace;

b. to contribute to the deterrence of attack on North America by providing capabilities for warning of attack and for defence against air attack; and

c. should deterrence fail, to ensure an appropriate response against attack by providing for the effective use of the forces of the two countries available for air defence.[16]

The shift away from active defence was underlined by the fact that the new document guided NORAD to "operate within a concept of surveillance, warning, control and defence" where the 1958 text had referred simply to "air defence". The mission of NORAD has remained largely unchanged since then. In 1981 the objectives were given as follows:

a. to assist each nation to safeguard the sovereignty of its airspace;

b. to contribute to the deterrence of attack on North America by providing capabilities for aerospace surveillance, warning and characterization of aerospace attack, and defence against air attack; and

c. should deterrence fail, to ensure an appropriate response against attack by providing for the effective use of the forces of the two countries available for air defence.[17]

D. Command, Control and Consultation

1. *Headquarters*

NORAD's central command and control facilities were originally located at the headquarters of the U.S. Continental Air Defence Command in Colorado Springs, Colorado.[18] In 1966, NORAD was transferred to a "hardened" facility in Cheyenne Mountain, near Colorado Springs. The headquarters has always been integrated. At present, 46 of the 187 NORAD headquarters uniformed personnel are Canadians.[19]

CINCNORAD is "triple-hatted"; that is, in addition to NORAD, he is Commander of the U.S. Air Force Space Command and Commander-in-Chief of the new Unified Space Command (USC)[20] which was activated on September 23, 1985.[21] The co-location of these two U.S. command headquarters with NORAD's headquarters and the fact that all three organizations have complementary roles and share key U.S. personnel has led to considerable public confusion about the role of Canadians in the chain of command and control at Colorado Springs. The three organizations remain separate, however, and Canadian officers serve only in NORAD.

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[16] *1975 NORAD Agreement*, p. 4.

[17] *1981 NORAD Agreement*, pp. 4-5.

[18] Directorate of Command History, NORAD Headquarters, *Nineteen Years of Air Defence*, NORAD Historical Reference Paper 11 (Colorado Springs, 1965) p. 50.

[19] Another 82 Canadian officers can be found at various NORAD facilities around the United States; 62 Americans are posted to NORAD installations in Canada.

[20] The actual name of this U.S. command is "United States Space Command," normally abbreviated as USSPACECOM. The Committee has elected to refer to it as the Unified Space Command, or USC, in order to minimize confusion with the USAF Space Command (AFSPACECOM).

[21] CINCNORAD is actually "quadruple-hatted" at the time of writing; he is also Commander-in-Chief of the U.S. Aerospace Defense Command (ADCOM) due to be phased out later this year and whose functions will be turned over to the USC and Tactical Air Command (TAC).

Like commands in NATO, NORAD draws upon the resources of U.S. service and operational commands whose range of responsibilities extends beyond those of the combined command. It has for some time received support from the U.S. Aerospace Defense Command and the USAF Space Command. After the reorganization now underway in U.S. command structures, its U.S. support will come primarily from a U.S. continental air defence component and the USC (see Figure 2).

ADCOM has been in part a component command of NORAD. For its NORAD missions, which include air defence and missile warning, it has drawn upon resources from the USAF Space Command, the Tactical Air Command and the Alaskan Air Command. In addition to these NORAD missions ADCOM has also had responsibility for space defence, a mission not shared by NORAD. Once the new USC becomes fully operational and ADCOM is phased out later this year, organizational relationships may further distance NORAD from those U.S. commands which own the assets necessary to perform missile warning and space surveillance missions. Unlike ADCOM, the USC will not be a component command of NORAD. The USAF Space Command will become a component command of the USC (along with the Navy's Space Command and a U.S. Army element) and will supply resources to the Commander-in-Chief of the new command, CINCSPACE, rather than to CINCNORAD. It will be CINCSPACE's responsibility to support NORAD in missile warning and space surveillance (see Figure 3).

The USC will have operational responsibility for U.S. space assets. This would probably include anti-satellite (ASAT) systems if they are deployed. Likewise if the Strategic Defence Initiative (SDI) bears fruit, the USC might be given responsibility for ballistic missile defence. The fact that the same officer is both CINCSPACE and CINCNORAD would not automatically turn BMD or ASAT into NORAD tasks, however. This could only happen if both the Canadian and American governments agreed to such a major change in NORAD's mandate.

2. *The Regions*

To facilitate command and control, the continent was divided into regions. There were eleven initially; this number was later reduced to eight and, in 1983, to seven. The most recent division was influenced by Canada's desire to bring the regional air defence boundaries into line with national borders. Until the two Canadian Region Operations Control Centres (ROCCs) achieved full operational capability on August 15, 1984, a significant amount of Canada's airspace was under the command and control of U.S. facilities. The Canadian ROCCs, co-located in a single facility at North Bay, Ontario, perform air surveillance, identification and interceptor control functions over Canadian airspace from coast to coast and all the way to the DEW Line. Five additional ROCCs cover the United States including Alaska.

Testifying before the Committee, General Robert T. Herres, USAF, the current CINCNORAD, indicated that NORAD intended to consolidate the current seven regions into three in the near future. The four continental U.S. regions will become sectors of a single region, Canada East and Canada West will become sectors of the Canadian NORAD Region, and Alaska will remain a region on its own.[22]

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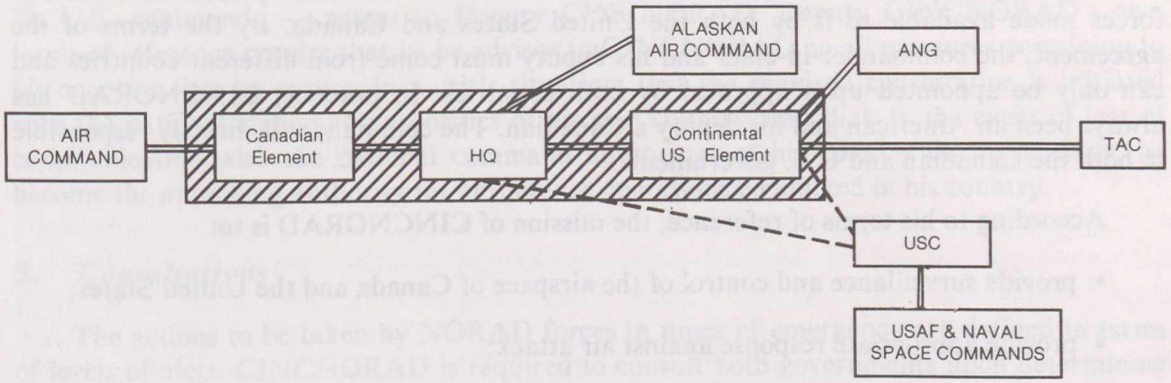
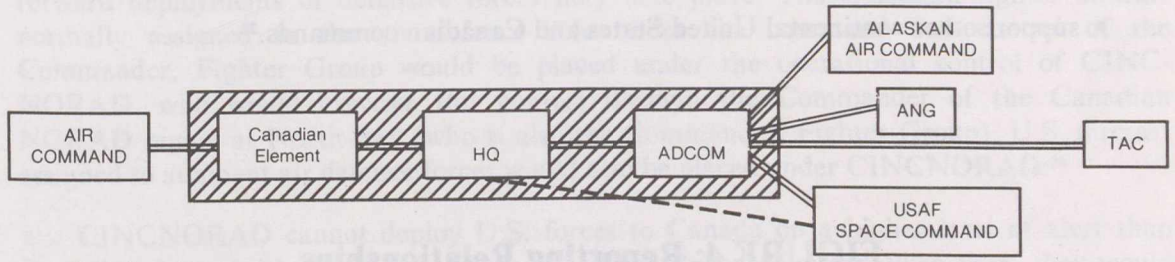
[22] *Proceedings*, December 11, 1985, pp. 54:18-19.

FIGURE 2: NORAD and Related Commands

a) With the Unified Space Command



b) Before Unified Space Command's Establishment



═══ Supplier of resources

- - - Supplier of missile warning and space surveillance information or services

FIGURE 3: Distribution of Command Responsibilities for Aerospace Defence of North America

Functions \ Mission Element	Air Defence	Ballistic Missile Defence	Space Defence
Surveillance Identification Warning and Attack Assessment	NORAD	NORAD supported by USC	NORAD supported by USC
Weapons control and Engagement	NORAD	USC (Planning only—No forces available)	USC

Based on a slide used by CINCNORAD during his meeting with the Committee on December 11, 1985.

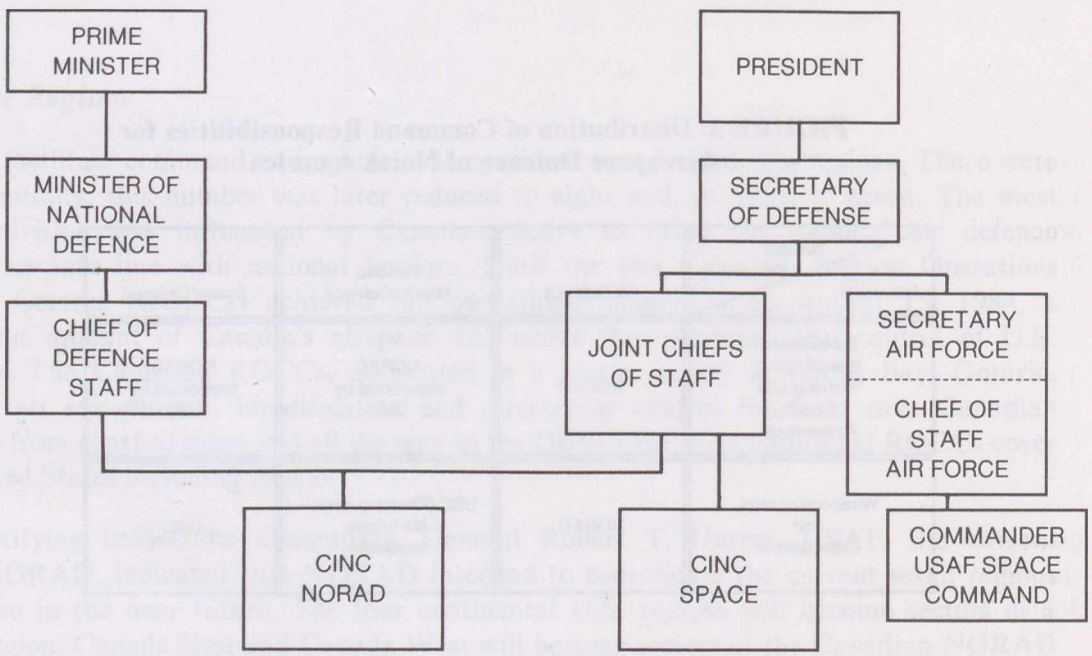
3. *CINCNORAD*

NORAD provides an integrated structure for the command and operational control of forces made available to it by both the United States and Canada. By the terms of the agreement, the commander-in-chief and his deputy must come from different countries and can only be appointed upon approval by both countries. In practice, CINCNORAD has always been an American and his deputy a Canadian. The commander is directly responsible to both the Canadian and U.S. governments.

According to his terms of reference, the mission of CINCNORAD is to:

- provide surveillance and control of the airspace of Canada and the United States;
- provide appropriate response against air attack;
- provide warning and assessment of aerospace attack, utilizing mutual support arrangements with other commands; and
- support other continental United States and Canadian commands.[23]

FIGURE 4: Reporting Relationships



Based on a slide used by CINCNORAD during his meeting with the Committee on December 11, 1985.

[23] Terms of Reference, Commander-in-Chief, North American Aerospace Defence Command, paragraph 3.

4. *Deputy CINCNORAD*

During CINCNORAD's absence or incapacity, command of NORAD — as opposed to his U.S. commands — passes to Deputy CINCNORAD. Deputy CINCNORAD's own terms of reference require that he be advisor to CINCNORAD on all measures pertaining to his country; that he ensure, in a crisis situation, that the required consultation is initiated with the national command authorities of his own country; and that, in the event of loss of communication with the national command authorities of his country during a crisis, he become the approving authority for air defence operations conducted in his country.

5. *Consultations*

The actions to be taken by NORAD forces in times of emergency are defined in terms of levels of alert. CINCNORAD is required to consult both governments upon determining that an increase in alert status seems warranted. The two governments then consult about defensive action and alert levels. During conditions of enhanced readiness, augmentation and forward deployments of defensive forces may take place. The Canadian fighter aircraft normally assigned to the air defence role under the command and control of the Commander, Fighter Group would be placed under the operational control of CINCNORAD, who would exercise this control through the Commander of the Canadian NORAD region at North Bay (who is also the Commander, Fighter Group). U.S. aircraft assigned to augment air defence forces would also be placed under CINCNORAD.[24]

CINCNORAD cannot deploy U.S. forces to Canada on a higher level of alert than Canadian forces without the prior approval of the Prime Minister. Even then, they would operate in Canada under Canadian direction. The decision to change alert status remains purely national. Canadian forces assigned to NORAD can have their alert status changed only with the approval of the Prime Minister.

There have been two instances when the alert status of the two national components of NORAD have diverged. The first occurred in 1962 during the Cuban missile crisis when RCAF forces were alerted some forty-two hours before Prime Minister Diefenbaker gave his approval for them to be placed on the same higher alert level as their U.S. counterparts.[25] The second instance was during the Middle East crisis of 1973, when President Nixon ordered all U.S. forces world-wide on higher alert. Canadian interceptor forces assigned to NORAD did not follow suit, but Canadian personnel at NORAD headquarters were caught up in the U.S. air defence forces' alert activities. Procedures now exist which would allow U.S. personnel to replace their Canadian colleagues at headquarters should it become necessary.

Whatever the circumstance, Canada would not be caught unawares: data from the DEW and Pinetree Lines and, when they become operational, from the North Warning System (NWS) and the Over-the-Horizon Backscatter (OTH-B) radars, as well as from other systems, would at once be communicated to National Defence Headquarters in Ottawa through NORAD. The certainty of consultation, especially in a dire emergency, is less clear. John Holmes has reflected:

> consultation is always ambivalent ... at the time of the Cuban missile crisis of 1962, it was made clear that neither Canada nor any other ally

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[24] *Proceedings*, October 3, 1985, p. 33:22.

[25] Willoughby, *op. cit.*, p. 149; see also McLin, *op. cit.*, p. 157.

was going to be consulted about the response in an emergency in which American forces would have to play the decisive role. I think it can well be maintained that the Americans acted contrary to the NORAD agreement by not consulting us before they decided on their policy.[26]

E. The Changing Resources

1. *The Evolution of NORAD's Resources*

At its height, between 1958 and 1962, NORAD could call on some 2,000 regular force interceptor aircraft (162 of them Canadian), 3,900 augmentation aircraft (101 Canadian), some 575 surface-to-air *Nike* and *Bomarc* firing units (none operational in Canada) and approximately 480 radar installations (173 in this country).[27] The NORAD system employed nearly 250,000 personnel (including 17,000 Canadians), while the operating expenses exceeded U.S.$6.6 billion per year.[28] The integration of command and control functions was enhanced by the computerized regional control centres of the Semi-Automatic Ground Environment (SAGE) complex which gave instant warning to the American and Canadian commands and would direct any battles against manned bombers. It was later augmented by the Back-Up Interceptor Control (BUIC) communication network. Crude but elaborate civil defence procedures to protect urban populations were also instituted, based on recommendations of the Joint U.S.-Canadian Civil Defence Committee originally set up in 1951.[29]

As the threat evolved, the possibility of large-scale bomber attacks was minimized and air defence was drastically curtailed. The Mid-Canada Line was dismantled, the number of DEW Line installations was reduced from 78 to 31, and 15 of 39 CADIN-Pinetree sites were closed; other surveillance systems were also eliminated, as were the *Bomarc* and most *Nike* SAM batteries. Interceptor strength steadily declined and manpower dropped precipitously to reach 55,000 in 1973. From the mid-1960s NORAD's remaining anti-bomber element was reduced to carrying out the functions of "a relatively compact force capable of providing early warning, peacetime air sovereignty and a limited active air defence".[30]

As a command structure *NORAD has no assets of its own.* It must draw upon forces supplied by other organizations. While these organizations manage the resources, their operational control and the decision to commit them are the responsibility of CINCNORAD — once they have been assigned to him.

In 1985 the active forces immediately available to NORAD consisted of 16 interceptor squadrons: 4 regular force squadrons of U.S. F-15s; a single squadron of Canadian CF-18s; and 11 U.S. Air National Guard (ANG) squadrons of F-106s and F-4s. The number of U.S. regular force air defence squadrons is expected to be reduced to three in 1986. A new Canadian CF-18 squadron should be activated in 1987, however, bringing up to two squadrons the Canadian contribution to North American air defence. These forces could be augmented by a number of other U.S. aircraft as well as the CF-18 aircraft from the

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[26] *Proceedings*, October 10, 1985, p. 37:27.

[27] Space Command History Office, Colorado Springs.

[28] John Hamre, "Continental Air Defence, United States Security Policy, and Canada-United States Defence Relations", in G.R. Lindsey, et al, *Aerospace Defence: Canada's Future Role?* (Wellesley Papers 9/1985, Toronto, 1985) p. 21; see also Martin Shadwick, "Canadian air defence", *International Perspectives* (March-April 1985) p. 11. (*Budget figure adjusted to 1985 US dollars.*)

[29] Willoughby, *op. cit.*, pp. 134 and 175-188 *passim.*

[30] Shadwick, *op. cit.*, p. 12.

TABLE 1: Canadian Personnel Available to NORAD, 1960-1985

Year	Military	Civilian	Total
1960	13,845	3,383	17,228
1965	12,176	3,262	15,438
1968	10,869	3,015	13,884
1971	9,360	2,960	12,320
1974	8,206	2,831	11,037
1978	7,806	2,606	10,412
1983 (est.)	7,800	2,600	10,400
1985	5,042	1,657	6,699

Source: Directorate of Continental Policy, DND

TABLE 2: Canadian and U.S. Contributions to NORAD, 1984-1985 *
(in millions of 1985 Canadian dollars)

Canadian Costs, Fiscal Year 1984-5		U.S. Costs, Fiscal Year 1985	
Operations	384	Air Force	
Procurement	270	Operations	2,512
Construction	10	Procurement	1,856
		R, D, T & E**	1,754
		Construction	204
		Air National Guard	435
		Navy	18
TOTAL CANADIAN COSTS	664	TOTAL U.S. COSTS	6,799

* The Canadian and U.S. fiscal years do not coincide: the Canadian fiscal year 1984-85 began April 1, 1984 and ended March 31, 1985 while U.S. fiscal year 1985 began October 1, 1984 and ended September 30, 1985. (In this table U.S. $1 = C $1.35.)

** Research, Development, Testing and Evaluation.

Sources: NORAD/Space Command *Pocket Information Handbook* (October 1, 1984) and Directorate of Continental Policy, DND.

training squadron at CFB Cold Lake. NORAD could also draw upon USAF Airborne Warning and Control System aircraft (AWACS), eight of which have been designated for possible use by NORAD.[31]

At present, the total manpower available to NORAD numbers some 64,000 personnel, of whom 6,699 are Canadians (5,042 military and 1,657 civilian). These figures represent a considerable decline from previous years.

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[31] *Proceedings*, December 11, 1985, p. 54:11.

Canada's share of the expenditures incurred on behalf of NORAD has traditionally represented about 10 percent of the total. The Canadian share for fiscal year 1984-85 was $664 million.[32] (See Table 2.)

2. *NORAD's Canadian Component*

The components of the present North American air defence surveillance and warning system located in Canada are:

- 21 radars of the DEW Line;
- 24 radars of the Pinetree Line;
- 2 ROCCs, both in North Bay;
- a squadron of CF-18s, soon to be increased to two:
- a network of communication facilities linking all of these radars to the ROCCs and the ROCCs to Colorado Springs, NORAD's Headquarters; and
- a Baker-Nunn space surveillance camera[33] at St. Margaret's, New Brunswick (scheduled to be phased out in 1988).

The DEW Line and Pinetree radars are what remains of the much more extensive systems built in the 1950s. Their capabilities were allowed to atrophy in the intervening years as the Soviet bomber threat receded such that today radar coverage is incomplete and the entire system has been described by Major-General Ashley, Chief of Air Doctrine and Operations, as "very porous".[34]

3. *Plans for the Modernization of NORAD*

Concerns about the condition of North American air defence led to the Joint United States-Canada Air Defence Study (JUSCADS) begun in 1979. This study revealed that the air defence system, unchanged since the 1950s, left "significant gaps in coverage for bomber warning" and, at the same time, ignored "airspace integrity enforcement problems".[35]

Also in 1979, the U.S. Congress directed the Department of Defense to develop a master plan for improving continental air defences. The U.S. Air Force's proposal, the Air Defence Master Plan (ADMP), was sent to Secretary of Defense Harold Brown near the end of the Carter administration and subsequently accepted, in 1982, by the Reagan

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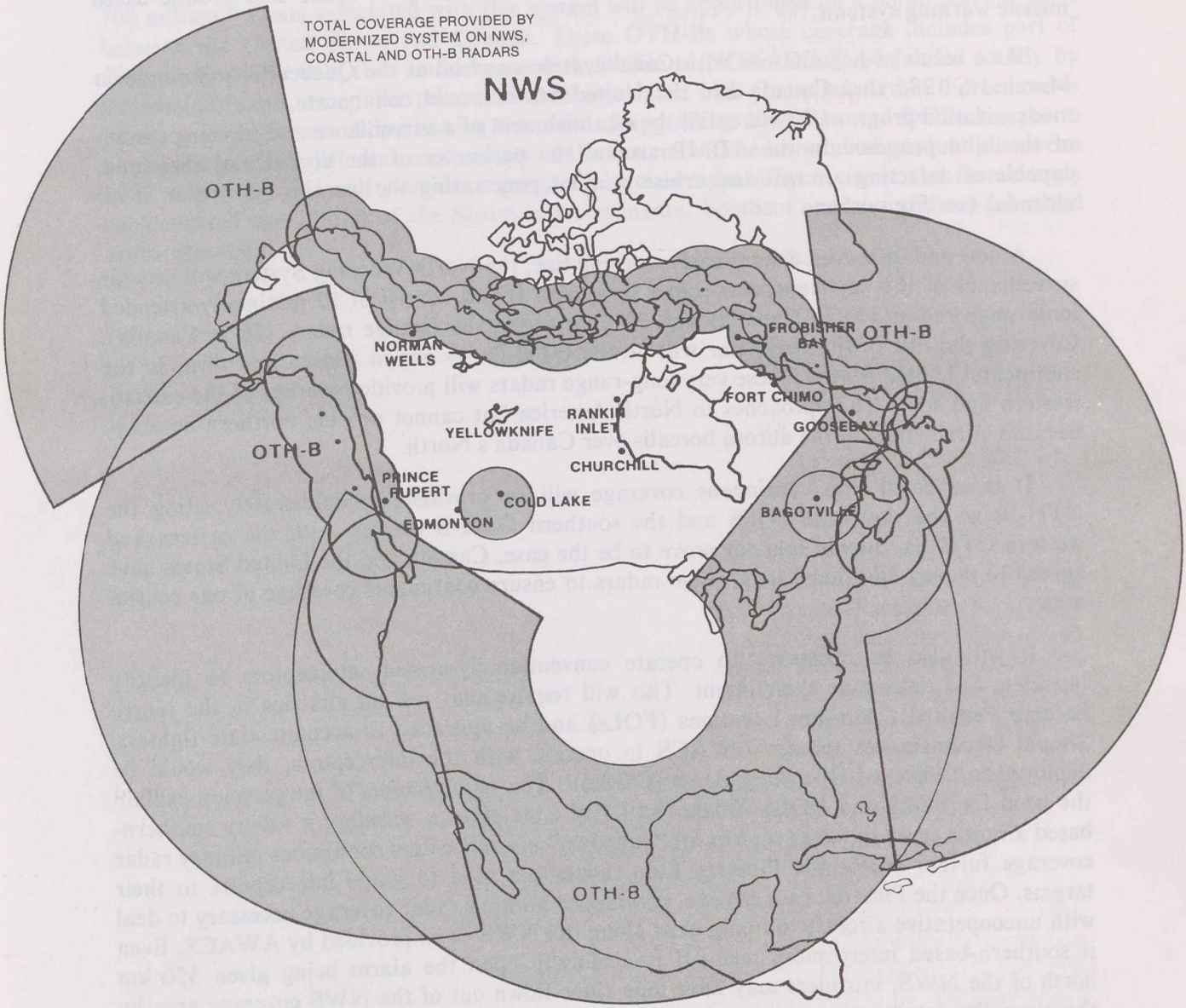
[32] Throughout this report, figures are given in Canadian dollars unless otherwise stated.

[33] This camera has been used to photograph portions of the sky so that satellites may be pinpointed in location and time. This information is used to update NORAD computers to determine if satellites are maintaining their orbits or returning to earth.

[34] *Proceedings*, February 14, 1985, p. 4:9.

[35] Unclassified *Extracts from JUSCADS Executive Summary*, p. 5.

FIGURE 5: NORAD's Modernized Warning System



Source: Proceedings, March 21, 1985, p. 7A:9.

administration after consultation with the Canadian government as a blueprint for the complete overhaul of North American air defences.[36]

The ADMP included the following elements: replacement of the DEW Line with a more effective warning system; installation of OTH-B radars to cover various approaches to the continent; complementary coastal, gap-filling sensors; new interceptors and new interceptor deployment patterns; increased reliance on AWACS; improvements to command, control and communications systems (C^3); and an updating of space and ground-based missile warning systems.[37]

As a result of negotiations with Canada, it was agreed at the Quebec City Summit on March 18, 1985 that Canada and the United States would collaborate on a far-reaching modernization program. It will entail the establishment of a surveillance and warning system of the kind proposed in the ADMP around the perimeter of the continental mainland, capable of detecting aircraft and cruise missiles penetrating the warning perimeter at all altitudes (see Figure 5).

A new and improved distant early warning line, the North Warning System will provide surveillance of the key transpolar routes of attack. It will consist of 13 minimally-attended long-range radars (11 in Canada) and 39 unattended short-range radars (36 in Canada). Covering the rest of the perimeter will be the OTH-Bs — one in Alaska and three in the continental United States. These very long-range radars will provide coverage of the eastern, western and southern approaches to North America but cannot provide northern coverage because of the effect of the aurora borealis over Canada's North.

It is expected that continuous coverage will be provided by deliberately siting the OTH-Bs so that both the NWS and the southern OTH-B overlap with the eastern and western OTH-Bs. Should this not prove to be the case, Canada and the United States have agreed to deploy additional long-range radars to ensure continuous coverage of our coastal areas.

It will also be necessary to operate conventionally-armed interceptors to identify intruders and determine their intent. This will require that certain airstrips in the North become Forward Operating Locations (FOLs) and be upgraded to accommodate fighters. Should circumstances require AWACS to operate with the interceptors, they would be deployed to Dispersed Operating Bases (DOBs).[38] The requirements of interception explain the need for FOLs and DOBs. When the DEW Line gives a warning, it allows southern-based aircraft to scramble as soon as an "unknown" aircraft enters continuous military radar coverage further south; the Pinetree Line radars are used to guide interceptors to their targets. Once the Pinetree Line is gone, continuous military radar coverage necessary to deal with uncooperative aircraft will only exist along the NWS or as provided by AWACS. Even if southern-based interceptors take off immediately upon the alarm being given 350 km north of the NWS, intruders may have long since flown out of the NWS coverage area by the time the interceptors are in a position to carry out their mission. Intercepting the

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[36] Hamre, *op. cit.*, p. 22.

[37] Special Committee of the Senate on National Defence, *Canada's Territorial Air Defence* (January 1985) pp. 13-14.

[38] The FOLs and DOBs will be austere facilities located at existing airfields which are to undergo only "the minimum necessary [upgrades] to allow deployment and operation of small numbers of aircraft" (MGen. Ashley, *Proceedings*, February 14, 1985, p. 4:11). The FOLs will be located at high northern latitudes, the DOBs further south. Speaking of the FOLs, the Chief of the Defence Staff indicated to the Committee on March 21, 1985 that "we would not envisage ever having more than two aircraft at any one of these alert sites" (*ibid*, p. 7:7).

intruders would then be next to impossible without AWACS unless they continued as far south as the U.S. Joint Surveillance System — something cruise missile bombers would not need to do to strike at targets in the continental United States.

The total cost of the various elements of the modernization — the North Warning System, OTH-Bs, coastal radars if required, and northern airstrips — has been estimated at approximately $7 billion. The Canadian portion of the total system cost will be about 12 percent. The specific cost to Canada of the North Warning System is expected to be $600-700 million.[39] Costs associated with this system will be apportioned on a 60/40 percent basis between the United States and Canada. Those OTH-Bs whose coverage includes part of Canada, and AWACS that could be made available to NORAD will be funded totally by the United States, except for personnel costs associated with Canadian Armed Forces crews jointly manning them. Apportioning the costs of upgrading the FOLs and DOBs has yet to be negotiated. The different components of the system will be introduced gradually between 1988 and 1992 and will provide a greatly improved capability to meet the increasingly sophisticated capabilities of the Soviet intercontinental bombers and air- and sea-launched cruise missiles.

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[39] Hon. Erik Nielsen, *Hansard*, March 13, 1985, p. 2977.

Chapter III

NORTH AMERICAN DEFENCE IN STRATEGIC PERSPECTIVE

A. The Present Context

In the global calculus of superpower security policies Canada does not figure highly. Nor has North American defence, until the last several years, been an important factor in the U.S.-USSR worldwide balance of nuclear and conventional power. Yet it is only in the larger perspective that Canadian defence policy can be properly evaluated, especially Canada's involvement in NORAD and other aspects of continental strategic cooperation with the United States.

1. *Facts and Figures*

Table 3 sets forth the strategic balance between the United States and the USSR.[1] It shows a rough parity in strategic nuclear weapons and a continuing Soviet superiority in conventional weapons. For the purpose of examining NORAD, it is the strategic nuclear balance which is most important since these are the only weapons which can reach North America. The meaning of the conventional balance should not be forgotten, however, because the United States and its NATO allies have traditionally sought to balance out Soviet superiority in conventional forces with nuclear weapons. This is one of the reasons why the United States has deployed theatre and tactical nuclear weapons in Europe for thirty years.

Both the Americans and the Soviets have the capability to deliver a catastrophic attack upon each other's homeland. Neither side has a margin of superiority that would allow it to assume it could launch a first strike and not suffer unprecedented destruction from a retaliatory blow. In this sense, a rough parity has existed between the two sides for a number of years. Nevertheless, the components of this rough balance have changed over the years and continue to change. Thirty years ago the most important element in both sides' nuclear arsenals was the long-range bomber fleet, able to deliver atomic bombs against cities and military installations. During the 1960s, the bomber was replaced by the land-based intercontinental ballistic missile (ICBM). From the mid-1960s on, the United States and USSR began deploying submarine-launched ballistic missiles (SLBMs) which came to make up the third leg of the strategic nuclear triads along with bombers and ICBMs. Today, a new element, the long-range cruise missile, is being adapted by the United States and the USSR for air, sea and ground launch (ALCM, SLCM, and GLCM).

[1] The Committee was given *in camera* much quantitative and qualitative information on the nature of the threat to North America and the response to it. Since classified information cannot be used in this report, parts of the present chapter rely on open sources.

TABLE 3: U.S. and Soviet Quantitative Superiorities, January 1, 1980 and 1985

U.S. SUPERIORITY	1980		1980 U.S. Standing	1985		1985 U.S. Standing	U.S. lead compared with 1980
	U.S.	USSR		U.S.	USSR		
STRATEGIC NUCLEAR FORCES							
Nuclear Weapons	9,776	6,023	+3,753	10,770	9,594	+1,176	−2,577
Strategic Bombers	376	207	+169	297	303	−6	−175
NAVAL FORCES							
Aircraft Carriers	24	4	+20	25	5	+20	Par
Carrier Aircraft	696	45	+651	787	60	+727	+76
ASW Aircraft	468	380	+88	508	480	+28	−60
Battleships	0	0	Par	2	0	+2	+2
Destroyers	95	71	+24	69	70	−1	−25

SOVIET SUPERIORITY	1980		1980 U.S. Standing	1985		1985 U.S. Standing	Soviet lead compared with 1980
	U.S.	USSR		U.S.	USSR		
STRATEGIC NUCLEAR FORCES							
ICBMs	1,054	1,398	−344	1,030	1,398	−368	+24
SLBMs	656	988	−332	592	946	−354	+22
SAM Launchers	0	9,300	−9,300	0	9,565	−9,565	+265
Interceptors[2]	273	2,725	−2,452	282	1,210	−928	−1,524
THEATER NUCLEAR FORCES	226	1,886	−1,660	245	2,080	−1,835	+175
LAND FORCES							
Manpower[1]	758	2,440	−1,682	781	3,020	−2,239	+557
Divisions	28	181	−153	29	200	−171	+18
Medium tanks	10,687	47,590	−36,903	13,347	52,900	−39,553	+2,650
AIR FORCES							
Fighter/Attack[2]	2,656	4,000	−1,344	2,900	5,460	−2,560	+1,216
Medium Bombers[3]	264	1,085	−821	198	1,023	−825	+4
NAVAL FORCES							
Cruisers	27	35	−8	29	38	−9	+1
Frigates	65	159	−94	106	177	−71	−23
Attack Submarines	81	275	−194	99	270	−171	−23

[1] Active manpower only. In thousands.
[2] Soviet quantitative change primarily due to reorganization.
[3] Includes Navy bombers.

Source: John Collins, *U.S.-Soviet Military Balance 1980-1985* (Washington, D.C., 1985) p. 155

The number of weapons is only one element in determining the relative balance of nuclear forces; the capabilities of these weapons are also important. From that point of view, the greatest change introduced in recent years has been the multiple, independently targeted re-entry vehicle (MIRV) first deployed in the early 1970s. MIRVing allows one missile to strike as many as ten[2] separate targets. Major improvements were also achieved in missile accuracies during the same period with the result that it is now believed a modern ICBM could strike an opposing ICBM even in a silo "hardened" to withstand a nuclear attack.

[2] This is the largest known MIRV capability, found on the Soviet SS-18 Mod 4 ICBM and expected on the U.S. MX ICBM. The U.S. D-5 SLBM under development is said to have 16 re-entry vehicles.

2. *General Considerations*

The ability of nuclear weapons to destroy other nuclear weapons is referred to as a "counterforce" capability. Both the USSR and the United States have sought to acquire such a capability, although for different reasons: the USSR because its nuclear doctrine has long advocated the quick destruction of the enemy's forces should nuclear war become unavoidable; the United States because it has in recent years sought to increase its options in case of hostilities. Counterforce weapons would make it possible to strike at military facilities rather than cities and thus, in theory, to avoid or at least postpone an attack on population centres.

Both sides have come to regard counterforce weapons as important in maintaining the credibility of their nuclear deterrent. Should either be perceived to have achieved the ability to destroy a large part of the other's nuclear forces, the strategic balance would be dramatically altered. A counterforce capability does not equate with a first strike capability, however. While counterforce weapons would be necessary to carry out a first strike, they would not be sufficient. A true first strike capability would require that one side be able to destroy with a single blow enough of the other side's nuclear systems, both land- and sea-based, to avoid catastrophic retaliation. Neither the Soviet Union nor the United States has this capability at present, and neither is expected to have it for some time, if ever.

A great paradox of our time is that one side's nuclear weapons deter the use of the other side's only if there is a realistic possibility that they could actually be used.[3] Mutual deterrence ultimately rests on estimates of what would happen if these weapons were ever employed and on speculations about the adversary's willingness to pull the nuclear trigger in certain circumstances. This paradox is credited with having prevented not only nuclear war, but also any conflict or threat of conflict between the superpowers for close to forty years. As the late Bernard Brodie once remarked:

> One of the foremost factors making deterrence really work, and work well, is the lurking fear that in some massive crisis, it might fail. Under these circumstances one does not tempt fate.[4]

3. *U.S. Strategic Doctrine*

For many, the stability of the nuclear balance rests upon the certainty of Mutual Assured Destruction (MAD). Under this approach to deterrence, the components of the balance matter less than the guarantee that, whatever the weapons deployed, mutual annihilation would be the only certain consequence of their use.

Since at least the late 1960s it has been assumed that MAD constitutes the core of the U.S. approach to strategic nuclear weapons and to deterrence. In the past several years, however, there have been suggestions that the strategy of the United States — in effect its nuclear doctrine — is changing, moving away from deterrence toward a war-fighting approach to nuclear weapons. This is widely viewed as an undesirable shift because such an approach would mean that nuclear weapons are now regarded as usable in a traditional military sense — to fight and win a nuclear war. This, in turn, might undermine the perception of assured destruction upon which deterrence rests.

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[3] Harvard Nuclear Study Group, *Living With Nuclear Weapons* (New York, Bantam, 1983) p. 34.

[4] Bernard Brodie, *War and Politics* (New York, MacMillan, 1973) pp. 430-431.

These suggestions are based on numerous statements made by a variety of senior U.S. government officials about the nuclear doctrine of the United States, all of which stress nuclear war-fighting capabilities, flexibility and endurance as the desired attributes of the U.S. nuclear posture. The emphasis is undoubtedly new, but it simply highlights two unchanging truths: first, the military's function is to prepare for war; second, it makes little sense to buy weapons and never give any thought to how they might be used.

It should also be borne in mind that there is nothing particularly innovative about a war-fighting dimension to U.S. nuclear strategy: deterrence assumes a set of capabilities and plans for the employment of nuclear weapons. Even during the period when the declared U.S. doctrine was simply "massive retaliation", there existed a series of war-fighting plans, based upon existing capabilities, which targeted Soviet cities and military installations. In the 1960s, however, serious doubts were raised about whether the United States did, in fact, have any options other than massive retaliation in view of the growth in Soviet capabilities.

(a) *The Schlesinger Doctrine*

During the 1970s, the United States came to examine ways in which to make its nuclear arsenal and capabilities — its nuclear posture — more credible by allowing for "limited nuclear options". In 1974, President Richard Nixon issued National Security Decision Memorandum 242 (NSDM-242), better known as the "Schlesinger Doctrine" since its public elaboration by then Secretary of Defense James Schlesinger. The doctrine stressed the need for a more flexible U.S. nuclear posture to give the President a choice between massive retaliation and surrender should the Soviets use nuclear weapons in some limited way. This mirrored, in a sense, NATO's 1967 decision to adopt a "flexible response strategy" in order to lend credence to its own deterrent posture — which also rests ultimately on the use of nuclear weapons. In the United States, however, the flexible posture which was meant to support the new flexible strategy never emerged in the 1970s. This was the era of detente; Soviet parity was acknowledged and components of the balance became less important than overall numbers. In Henry Kissinger's words, "What in the name of God is strategic superiority? What is the significance of it, politically, militarily, operationally at these levels of numbers? What do you do with it?"[5]

(b) *Presidential Directive 59*

With the waning of detente in the late 1970s, concerns resurfaced in the United States about trends in the nuclear balance. While overall numbers of strategic nuclear launchers did not increase, changes in Soviet capabilities appeared to be giving the USSR the capacity to deny the United States any option short of massive retaliation. The credibility of the U.S. deterrent seemed once again in question.

President Carter's Presidential Directive 59 (PD-59), issued in the summer of 1980, went beyond the Nixon directive. It stressed that, if forced to do so, the United States should be able to fight a protracted nuclear war of indeterminate duration. To do so, U.S. forces would require the capability to achieve escalation dominance. U.S. nuclear forces and related command, control, communications and intelligence facilities (C^3I) should be able to absorb a Soviet first strike and respond with a series of graduated blows. The objective was to avoid defeat and compel the Soviets to terminate the war at the lowest possible level of

[5] Henry Kissinger, *Years of Upheaval* (Boston, Little Brown, 1982) p. 1175.

escalation. In order to avoid attacks on cities, PD-59 put special emphasis on the targeting of Soviet military installations, including ICBM silos, C³I facilities, and civilian command centres — the things the Soviet leadership was thought to value most.

Even prior to PD-59, President Carter initiated a series of strategic modernization programs so that posture could be brought in line with the doctrine then being developed. These included procurement of: 100 MX missiles which would be mobile and thus less vulnerable to Soviet counterforce attacks; a triple warhead for older *Minuteman* missiles; and a new SLBM, the D-5 (or *Trident II*) for the *Ohio*-class, nuclear-powered ballistic-missile submarine (SSBN). Development was also to proceed on air-, sea-, and ground-launched cruise missiles. In all instances, the limits of the unratified Strategic Arms Limitation Treaty (SALT II) would be respected, but the weapons would be more accurate than those of previous U.S. systems.

(c) *The Reagan Strategic Modernization Program*

The Reagan administration built upon PD-59 in its first strategic directive, National Security Decision Directive 13 (NSDD-13). It continued all of the Carter programs and revived the B-1 bomber program, cancelled by the previous administration. Later it added a new single-warhead ICBM, the *Midgetman.*

Early on, the Reagan administration seemed quite aggressive in its call for a greater war-fighting capacity. In his original defence guidance covering the period 1983-87, for example, Secretary of Defense Caspar Weinberger stated that the United States sought forces that could "prevail" if required. In response to public criticism, including some from its allies, the Reagan administration toned down this rhetoric, and the President himself told Congress that a nuclear war cannot be won and should never be fought. Since 1981, U.S. programs have nevertheless emphasized modernization to preserve and improve deterrent capabilities, both retaliatory and defensive. They have also pointed out the need to improve the effectiveness and survivability of U.S. C³I assets. All of this represents an effort to match the country's nuclear posture with its declaratory doctrine. U.S. spokesmen stress that deterrence remains the cornerstone of U.S. strategy while acknowledging that the United States is seeking greater flexibility.

At present, U.S. nuclear capabilities fall far short of affording the United States the required measure of flexibility. The defence guidance document for fiscal years 1984-88 recognized, for example, that "meeting our planned goal during this five-year period is probably infeasible"[6] because of budgetary constraints and long lead times. Only 300 of the 550 *Minutemen III* (in a total of 1,000 older *Minuteman* ICBMs) have been retrofitted with the Mark 12A triple warhead, and they remain in vulnerable fixed silos. Congress has approved only 50 MX ICBMs, and plans to make them mobile have been abandoned; they will also be put into older, albeit improved, silos. The *Midgetman* ICBM is under development, but not expected to appear until the mid-1990s. *Ohio*-class SSBNs are being deployed at the rate of one per year (six are in service), but the D-5 SLBM will not be available until 1989 at the earliest. Cruise missile development has proceeded more quickly and work has begun on advanced "stealth" bombers but, overall, the pace of change has been and is expected to remain slow, especially in terms of actual deployments. Congress is now cutting defence expenditures to the point where the United States may not meet the NATO

[6] As quoted in John M. Collins, *op. cit.*, p. 57.

target of a three percent annual increase in real terms. The recent Gramm-Rudman amendment could further slow the rate of growth of the Pentagon's budget in the coming years.

(d) *Strategic Defence*

Where the Reagan program has departed significantly from previous U.S. declaratory doctrines is in its emphasis on strategic defence and the Strategic Defence Initiative, a major research program into ballistic missile defence. Strategic defence efforts have barely begun, however. SDI has undoubtedly given a great boost to existing research and development into BMD and has encouraged new, space-related research, but a comprehensive defence system against ballistic missiles involving both space-based and ground-based elements is generally agreed to be some 20-25 years into the future; "robust" active homeland defence against bombers and cruise missiles will not be contemplated so long as there is no defence against ballistic missiles.

The lack of effective defensive capabilities poses a particular problem for a credible war-fighting or flexible response strategy because it lays open to attack the vast network of C^3I assets which would be necessary to direct a nuclear battle. The United States has sought to increase the survivability of communications links, radars and command posts, but here too work is progressing slowly.

B. The Threat and North America's Response

TABLE 4: Changes in the Soviet Triad, 1970-1984

	1970		1975		1980		1984	
LAUNCHERS								
ICBM	1427	76.7%	1607	63.6%	1398	53.6%	1398	52.8%
SLBM[1]	289	15.5%	765	30.3%	989	38.0%	946	35.7%
Bombers[2]	145	7.8%	155	6.1%	220	8.4%	303*	11.5%
Total	1861	100.0%	2527	100.0%	2607	100.0%	2647	100.0%
WEAPONS								
ICBM	1427	76.7%	1937	67.5%	5002	72.2%	6420	66.9%
SLBM[3]	289	15.5%	765	26.7%	1629	23.5%	2122	22.9%
Bombers[4]	145	7.8%	165	5.8%	295	4.3%	1052*	11.0%
Total	1861	100.0%	2867	100.0%	6926	100.0%	9594	100.0%

[1] The 1984 total counts two *Typhoon* submarines with 20 SLBMs each.

[2] *Bear*, *Bison*, and *Backfire* bombers assigned to the Soviet Air Force.

[3] SS-N-20 missiles have been tested with 6 and 8 warheads. The 1984 total assumes 8, because the Soviets tend to exploit maximum capabilities.

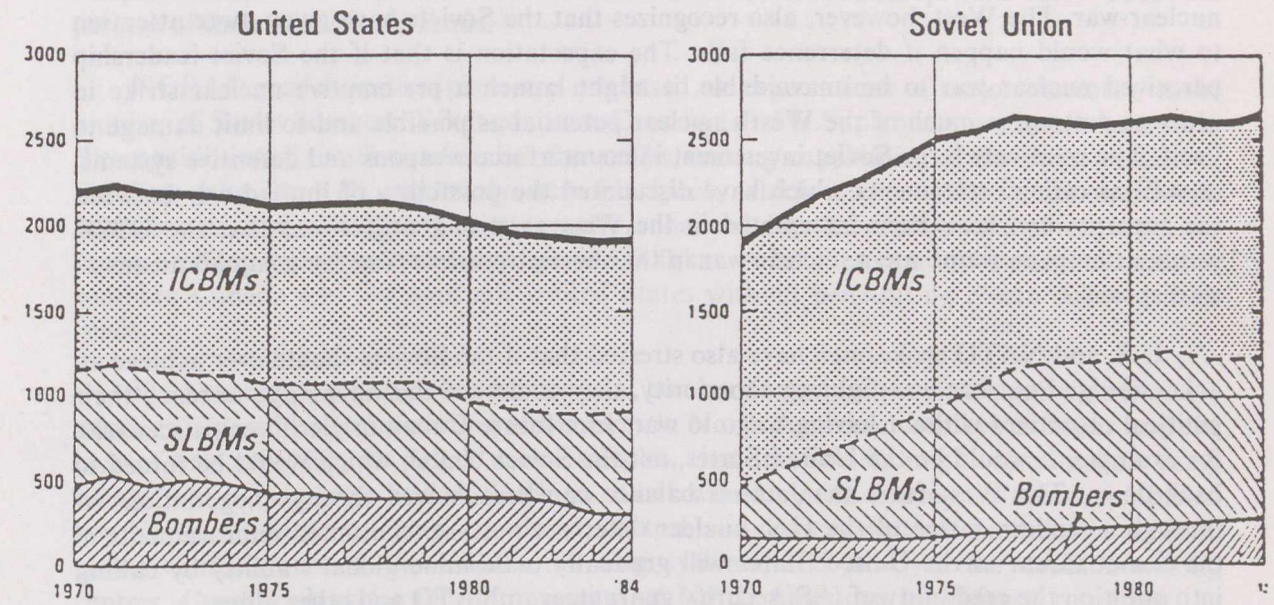
[4] Soviet strategic bomber weapon loadings have changed over the years. This count assumes average loadings of one large bomb or air-to-surface missile (ASM) per *Bear* and *Bison* and two ASMs per *Backfire* for 1970, 1975, and 1980. The 1984 count assumes two bombs plus two ASMs per *Bear* and *Bison* and two bombs or ASMs per *Backfire*, except for 25 new *Bear-H* bombers, which probably carry 8 ALCMs apiece.

* These figures include 130 *Backfire* bombers in the Soviet inventory not assigned to the Naval Air Force. An agreed statement which accompanied the SALT II Treaty states that the *Backfire* is not a strategic bomber and it does not fall under SALT limits. With an unrefueled radius in excess of 5,000 km, however, the *Backfire* could be employed for strikes against North America, especially if based in Cuba. It could also be refueled. (*Committee's note*)

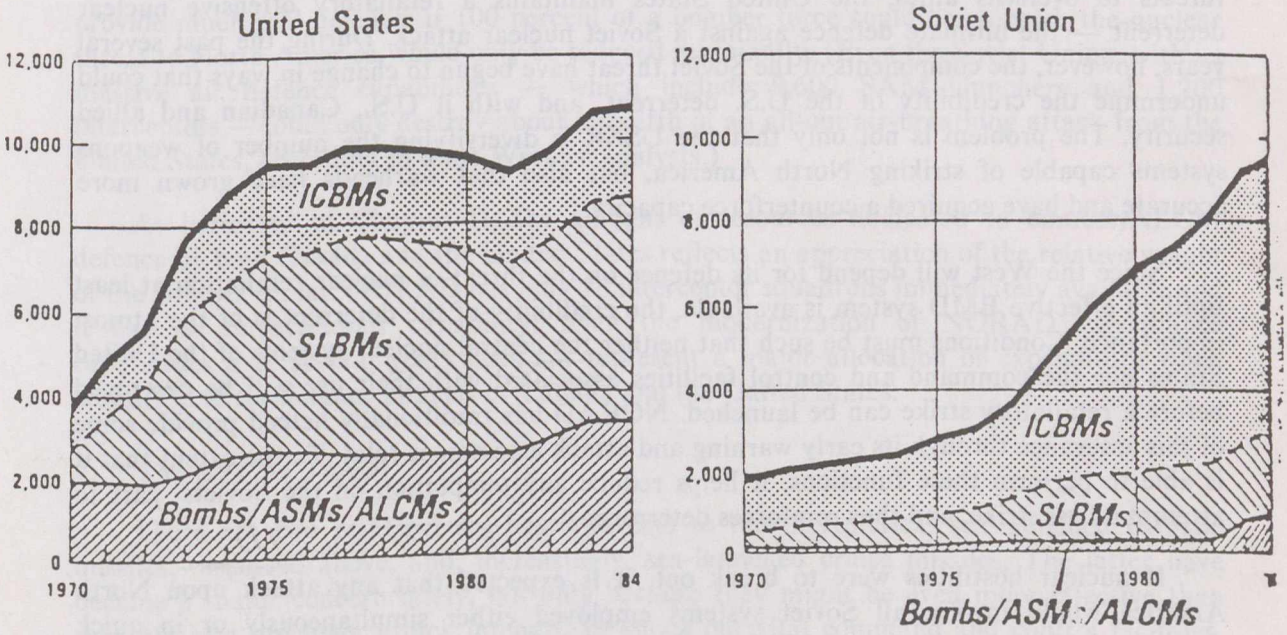
Source: John M. Collins, *op. cit.*, p. 54.

FIGURE 6: Evolution of the U.S. and Soviet Triads, 1970-1984

(a) Nuclear Delivery Systems



(b) Nuclear Warheads



Source: John Collins, *op. cit.*, p. 182.

1. *Soviet Strategy*

Efforts to change U.S. nuclear strategy and enhance nuclear capabilities are based partly upon the view that the Soviet Union approaches nuclear weapons not primarily from the standpoint of their deterrent value, but rather from a more traditional military perspective. The United States and its allies agree that the Soviet Union wishes to avoid a nuclear war. The West, however, also recognizes that the Soviets have given more attention to what would happen if deterrence fails. The expectation is that if the Soviet leadership perceived nuclear war to be unavoidable, it might launch a pre-emptive nuclear strike in order to destroy as much of the West's nuclear potential as possible and to limit damage to itself. The relatively large Soviet investment in counterforce weapons and defensive systems, as well as official statements which have discounted the possibility of limited war between the superpowers, have been interpreted in the West as strong suggestions that the USSR would attempt to terminate a nuclear war in the shortest possible time by using all means at its disposal.

U.S. and NATO spokesmen have also stressed that if the Soviets should ever achieve an acknowledged nuclear war-fighting superiority, they could use this advantage to reach their political objectives without having to go to war. In a future Cuban or Berlin crisis scenario, for example, it would be the United States, not the Soviet Union, which would be forced to back down. The West fears that, unless balance can be achieved through negotiations or through a modernization of the U.S. nuclear deterrent posture, continued improvements in the Soviet threat to the United States will gradually undermine global stability by calling into question the credibility of U.S. security guarantees to NATO and other allies.

2. *The Main Threat: Ballistic Missiles*

The greatest threat to North America is in the intercontinental ballistic nuclear capabilities of the Soviet Union. To meet this threat and deter nuclear and conventional threats to overseas allies, the United States maintains a retaliatory offensive nuclear deterrent — the ultimate defence against a Soviet nuclear attack. During the past several years, however, the components of the Soviet threat have begun to change in ways that could undermine the credibility of the U.S. deterrent, and with it U.S., Canadian and allied security. The problem is not only that the USSR is diversifying the number of weapons systems capable of striking North America, but also that warheads have grown more accurate and have acquired a counterforce capacity.

Since the West will depend for its defence on the threat of nuclear retaliation at least until an effective BMD system is available, the credibility of the deterrent is of the utmost importance. Conditions must be such that neither the central nuclear systems of the United States nor the command and control facilities associated with their use will be destroyed before a retaliatory strike can be launched. NORAD has traditionally helped provide some of this assurance through its early warning and attack assessment roles. To the extent that it is able to perform these functions, it helps reduce any temptation on the Soviets' part to attempt a first strike, and thus reinforces deterrence.

If nuclear hostilities were to break out, it is expected that any attack upon North America would involve all Soviet systems employed either simultaneously or in quick sequence. Although there is active defence against the manned bombers only, a surveillance, early warning and attack assessment capability against all forms of threat has long been considered essential to the overall U.S. deterrent posture.

3. *The Bomber/ALCM Threat*

Table 4 and Figure 6 (see above) show that there has been a recent increase in the number of bombers and bomber-deliverable nuclear weapons in the Soviet arsenal. Nevertheless, this leg of the Soviet triad remains by far the weakest. Ballistic missile weapons continue to represent over 85 percent of Soviet launchers and carry about 90 percent of their nuclear warheads.

NORAD modernization plans are not based on expectations of major increases in the number of Soviet bombers. What concerns Canadian and U.S. planners are improvements in the capabilities of the Soviet bomber force. The striking capabilities of the latest version of the *Bear* (the *Bear-H*) and of the new *Blackjack*, which is expected to enter the Soviet inventory around 1987,[7] are being greatly enhanced by the deployment of air-launched cruise missiles with an estimated range of 3,000 km. A bomber can now strike at targets in southern Canada and the northern United States without penetrating North American air space.

Even though the Soviet intercontinental bomber force is expected to remain relatively small, it is possible, given existing weaknesses in North American bomber defences and the lack of any capability to detect cruise missiles, that the Soviets might contemplate using bombers in a "precursor strike". Such an attack would aim to destroy a limited number of key North American warning, command, control, and communications facilities in order to create confusion, blind the ballistic warning systems, and paralyze the decision-making centres. Current plans for the improvement of North American air defence recognize the problem; they call for the replacement of outdated assets such as the DEW Line with newer facilities. The upgrades are qualitative rather than quantitative, however; current NORAD modernization efforts represent a marginal response to what military planners regard as a marginal threat.

The reason for this is that a much larger active air defence force would probably not provide much real defence; if 100 percent of a bomber force could be stopped, the nuclear threat to North America would only be reduced marginally. (Even the Soviet Union, with its massive air defence capabilities — which include 9,600 SAM launchers and 1,200 interceptors —could only destroy about one-fifth of an all-out air-breathing attack from the United States, according to some Western analysts.)

As indicated in Chapter II, the amount of resources dedicated to bomber/ALCM defence by both Canada and the United States reflects an appreciation of the relative weight of the bomber threat. NORAD has only 16 interceptor squadrons immediately available and it has no surface-to-air capability. Even the modernization of NORAD surveillance capabilities over several years does not represent a major allocation of expenditure when compared to the defence budgets of Canada and the United States.

4. *The SLCM Threat*

There are two principal sea-based threats to North America: sea-launched ballistic missiles, discussed above, and, increasingly, sea-launched cruise missiles. The latter have become a major concern lately, not only because they might be even more effective than ALCMs in a precursor attack intended to knock out vital command and control facilities,

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[7] *Jane's All the World's Aircraft 1984-85* (London, 1984) p. 247.

but also because there will be no means to detect and track cruise missiles until NORAD has modernized its radars.

The USSR has long deployed various types of cruise missiles aboard its surface and submarine forces. They are primarily intended for strikes against naval surface forces, but they could also be used against targets on land. As former U.S. Secretary of Defense Harold Brown recently underscored, "much of the United States . . . urban industrial and military target system is vulnerable" to existing Soviet SLCMs with ranges as short as 200 km.[8] The imminent deployment of the new SS-N-21 missile has increased concerns. It is believed to be the first Soviet SLCM with a very long range (some 3,000 km). It will not only greatly expand the sea area from which the Soviets could stage a precursor strike against North America, but indications are that it could be fired from the standard torpedo tubes of a wide variety of Soviet attack submarines — vastly increasing the number of submarines capable of land strikes and thereby complicating surveillance.

The deployment of SS-N-21 SLCMs will place an added premium on joint Canadian and U.S. anti-submarine warfare (ASW) operations. Since it is impossible to tell from the surveillance data whether a particular attack submarine is carrying cruise missiles, almost every Soviet submarine may have to be considered a strategic threat. It will also be important that NORAD be supplied with real-time, or instantaneous, information on the whereabouts of submarines. Once they are operational, the OTH-B (and NWS) radars will be able to detect and track the SLCMs in flight. ASW forces will make their task much easier, however, if they can locate and keep track of the launching platforms: the radars will then be able to concentrate on much more restricted ocean areas.

5. *The Land Threat*

As noted in Chapter II, unlike their NATO allies, Canada and the United States face no strategic threat on land. The most that is expected is some form of tactical operation: e.g., clandestine Soviet lodgments in remote areas designed to disrupt communications or radar links, or to serve a diversionary purpose. This would involve small forces since the movement of large Soviet forces and their logistic support would require many ships or planes and could easily be detected. Plans exist to respond to various contingencies involving land attack, but peacetime activities and infrastructures to cope with this threat are limited.

C. What of the Future?

1. *Geneva and the Strategic Balance*

Arms control negotiations are one of the most important factors shaping the global strategic setting. When they are suspended or stalled for lengthy periods, both sides tend to emphasize arms programs; when they register steady progress or yield an accord, they can profoundly modify the composition of the protagonists' arsenals and, with it, the relative importance of various types of weapons.

Although the Geneva negotiations may bring about a reduction in the number of warheads on each side, if the past can be any guide to the future they are unlikely to abort SDI. SALT I put a cap on the number of ballistic missile launchers, but did not take sufficiently into account the difficulties MIRVing would present in later years. The ABM

[8] Harold Brown, Lynn Davis, "Nuclear Arms Control: Where Do We Stand?", *Foreign Affairs*, Summer 1984, p. 1157.

Treaty effectively restricts the number of missile defence sites, but leaves both sides free to carry out further research, development, and testing of ground-based ABM systems. Research on ABM components based on future technologies may also be undertaken, at least according to recent official U.S. interpretations, provided it does not lead to deployment. SALT II aimed to further reduce and equalize launcher inventories as well as to control MIRVing, but left it to a now lapsed protocol to limit those developments which have since become issues of great concern — for example, the flight testing and deployment of mobile ICBMs and the deployment of ALCMs and SLCMs with ranges in excess of 600 km.[9]

(a) *Impact on the Ballistic Missile Threat*

Whatever the results of the Geneva negotiations, they are unlikely to alter the threat to North America. In the first place, the negotiations will probably be long and drawn-out. Second, major arms procurement programs are underway: ALCMs, D-5 SLBMs, MX ICBMs and B-1 bombers will be deployed by the United States, as will *Blackjack* bombers, SS-24 and SS-25 ICBMs, and ALCMs and SS-N-21 SLCMs by the USSR. Third, whatever agreements are reached, a period of transition will be required to implement them. Nuclear postures will continue to include significant counterforce capabilities for some time.

This does not mean that reductions along the lines now being discussed at Geneva will not be achieved. But the possible impact of the new balance has to be put in perspective. Current land-based missile accuracies are such that, despite silo "hardening", targetting two warheads on an ICBM silo would almost certainly guarantee its destruction. Unless the ceiling on the number of ICBMs is revised and a larger number of fixed single-warhead ICBMs deployed, even a 50 percent reduction in warhead stocks will not significantly lengthen the odds of survival for the land-based leg of the triad. Moreover, the odds for survival would not be better for the side striking first since SLBMs, to say nothing of bombers and ALCMs, would continue to provide a forbidding second strike capability.

The Geneva process may reinforce stability, but it will not substantially reduce the missile threat to Canada and North America. The major danger to this continent and this country will continue to be in a nuclear exchange between the superpowers, and such an exchange will by definition remain a possibility in a world whose security rests on deterrence and on MAD.

(b) *Impact on the Air-Breathing Threat*

A nuclear arms reduction accord would not necessarily diminish the air-breathing threat to the NORAD area unless it included cuts in the number of bombers or limitations on the number or range of air- and sea-launched cruise missiles. Although fears about cruise missiles may concentrate minds in Washington and Moscow, prospects for such an agreement are uncertain for two reasons. First, while reductions in the bomber fleet can be easily verified, limitations on cruise missiles cannot — especially for those aboard submarines. Second, the U.S. triad has always included a more significant air-breathing component than that of the Soviet Union and the United States has given every indication that it intends to maintain such a posture in future.

[9] The SALT II treaty was never ratified by the U.S. Congress, but each side has abided by it sufficiently for the other to do likewise. Even if it had been ratified, SALT II would have expired on December 31, 1985. Both sides have indicated that they are willing to continue to abide by its provisions for the time being.

When expected advances in "stealth" technology are factored in, it seems that the air-breathing threat, though it will certainly remain secondary, is not likely to vanish. A "free ride" would continue to make a "precursor strike" an option for Soviet planners. This option could in fact become especially attractive a few years into the new arms control regime: with reduced ballistic missile options, a first strike could not be contemplated at all unless the other side could first be "decapitated". This places added value on the recently agreed modernization of NORAD's peripheral radar systems and continued research on and improvements to the surveillance capability of North America.

2. *Defence-Related Activities in Space*

While the strategic context at sea, on earth, and in the air is more likely to be dramatically affected by political decisions than by technological developments over the coming years, the reverse may be true in space. The increased use of space for defence-related activities seems unavoidable. The Geneva negotiations may proscribe or postpone "weaponization" of outer space (i.e. the placing of weapons systems in orbit), but they are unlikely to result in a ban on seaborne, airborne, or ground-based weapons for use in space, in part because these have already progressed too far. The Geneva talks will certainly not impede the increasingly intensive use of space for passive purposes such as surveillance, communications, navigation and arms control verification.

Ballistic missile defences and anti-satellite systems will therefore remain issues to be faced by Canada and the United States — regardless of whether the Geneva negotiations are successful in bringing about a more stable nuclear balance. And whether or not SDI and ASAT proceed from research to deployment, Canada will also have to address the issues of its future in space and in the North American Aerospace Defence command. Although NORAD is not involved in space defence, as long as it exists it will be linked to U.S. military space activities — whether or not CINCSPACE and CINCNORAD continue to be the same USAF officer. Even if the NORAD agreement were not renewed, Canada would still have to deal with North America's and its own need for warning and assessment of air and aerospace attacks. For all the stability the Geneva talks may bring to the world, the seeming inevitability of at least some ground-based ballistic missile defences of the type allowed under the ABM Treaty and, perhaps, ASAT systems capable of attacking low-orbit satellites could complicate Canada's future choices.

(a) *Implications of SDI*

Most proponents of SDI are extremely cautious in their estimates of the time frame involved. Most believe that deployment of an effective ground-based system could not be contemplated until the mid or late 1990s. Space-based systems, if they ever materialize, would not appear until sometime in the next century, and then only if major technological breakthroughs are made. Political reality could delay deployments even further: Congress has already cut several billion dollars from the Strategic Defence Initiative Organization budget.

These uncertainties make it difficult to predict what impact SDI will have on NORAD and on Canada-U.S. security cooperation. For example, it has been suggested that land-based BMD systems would perform better if they were located in northern Canada. At this point, however, there is no more evidence to suggest that BMD systems would have to be

located in Canada than there is to sustain the view that deployment in Alaska or at sea could not compensate adequately for lack of access to Canada's territory.

Even if such systems were not located in Canada, their *widespread* deployment by the United States could have an impact on Canada-U.S. security relations. It could signal a real shift in U.S. strategy away from MAD and the traditional deterrence based on offensive systems toward a defence founded primarily on defensive capabilities. As John Anderson noted, this "could alter the nature of the arrangements necessary in the context of the defence of this continent between Canada and the United States. Canada would, therefore, have to re-examine its place in the overall strategy."[10]

On the other hand, a deployed BMD system might not really change the overriding importance of MAD — especially if large offensive nuclear arsenals were maintained — since no one could be certain that BMD would work. A critic of SDI, RAdm. Eugene Carroll (U.S. Navy, ret.) of the Center for Defense Information, observed that, "SDI or no SDI, ultimately MAD is the only defence we have for as long down the road as [we] could possibly see..."[11]

Should a future U.S. administration eventually decide to proceed with BMD deployment, it will not require Canada's approval unless it is imperative that certain systems be located on our territory. The government of Canada would then have to decide whether to agree to such deployments on Canadian soil or to turn down the U.S. request and face the consequences.

(b) *Implications of Space Developments*

With the threat to North America and this country largely unchanged, and with the rapid obsolescence of the sort of aerospace defence assets which have traditionally been located in Canada, a significant difficulty for Canada in the future strategic context may be that this country runs the risk of gradually becoming irrelevant to its own defence. Not only would this have a major impact on our national self-esteem, it would also likely have major repercussions on Canada-U.S. relations, which have in the past benefited from the defence connection. This would be especially true in terms of military technology transfers and defence industrial cooperation, but political relations would be affected as well.

Of the major modernization programs now planned for NORAD, only one, the North Warning System, will be located in Canada and entirely operated by Canadians. "Canadian participation in the two key intelligence [gathering] functions for North American aerospace defence, warning of missile launch activity and of the satellite situation, is minimal or non-existent".[12] Canadian personnel in NORAD are and likely will continue to be involved in the processing and analysis of space surveillance data. But, with the forthcoming improvements in the U.S. military satellite and space surveillance posture, the Canadian contribution of facilities will come to an end. Ironically, Canada's last material link with military space activity will then become the transmission of data from NWS radars to the North Bay Regional Operations Command Centre via civilian — and highly vulnerable — *Anik* satellites. Even this link will be further weakened toward the end of the 1990s when the

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[10] *Proceedings*, December 6, 1985, p. 52:6.

[11] As quoted by the Committee's Chairman, *ibid.*, p. 52:12.

[12] Professor Wesley Wark, *ibid.*, October 31, 1985, p. 41:107.

NWS and similar land-based systems are largely superceded by space-based systems capable of detecting and tracking manned bombers and cruise missiles.

To remedy this situation Canada would need a military space program. This would be especially useful in a sovereignty role because NORAD modernization plans are outward-looking and will not solve the problem of surveillance of all the land and sea areas over which Canada seeks to exercise sovereignty. It would also allow Canada to contribute a valuable asset to the defence of North America and to distinguish further its role in surveillance against the air-breathing threat from possible U.S. efforts to enhance active defence against ballistic missiles or satellites. As our colleagues in the other place observed:

> Canada could control the use of its own satellites and make sure that they remained dedicated to passive detection and surveillance needs. Canadian military satellites over the North could also provide Canadian civil authorities with much useful information about activities in the Arctic and frontier regions. They could, for example, help monitor many forms of air, land, and sea movements across the North, keep track of oil spills and other dangers to the environment, or document the impact of development. They could improve communications with remote settlements and facilitate search and rescue operations, while at the same time enabling Canadian industry to aim at the forefront of world technological development in the space field. The number of satellites required for a viable system might consist of four to six air surveillance satellites, one or two maritime surveillance satellites, and three to four communications satellites, stationed most of the time over Canadian territory or areas relevant to Canadian military and diplomatic communications. [Such a program would cost] about $150 million per annum in the next five years [1985-89] and $350 million per annum in the following decade.[13]

Space is the new frontier and Canada an acknowledged space pioneer. It was the third nation in the world to place a satellite into orbit (the *Alouette I* in 1962), the first to orbit a domestic satellite communications system (the *Anik* series beginning in 1972), and the originator of the use of direct broadcast-to-home frequencies that brought satellite communications to the consumer market. Not coincidentally, these achievements have been accompanied by the rapid development of a Canadian space industry which today is able to compete on the world market for complete satellite systems — a capacity shared by very few other countries in the world.[14] A cautionary note was sounded, however, by the chairman of the federal government's Interdepartmental Committee on Space, who warned the Committee that Canada's leading international competitors in space were initiating ambitious programs which could threaten Canada's comparative advantages. Unless Canada responds by making proportionate investments, it risks "being locked out of the largest civilian international technology development program foreseen for the remainder of this century".[15]

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[13] Figures in 1984 dollars. Special Committee of the Senate on National Defence, *Canada's Territorial Air Defence* (Ottawa, 1985) p. 40.

[14] *Proceedings*, December 12, 1985, pp. 55:6-7.

[15] *Ibid.*, p. 55:5.

Some of Canada's civilian space programs have military applications. Common carrier services relay a multitude of signals, some of which are military. For example, the *Anik B* satellite is used to relay communications from the DEW Line to NORAD's central and regional headquarters. *Anik D* satellites will provide direct communication links between the Region Operations Control Centre at North Bay and the NWS once the latter becomes operational. Canada has also been involved in a limited way in military space research. It is, for instance, cooperating with the United States, Britain and Australia in the *Teal Ruby* project, which seeks to develop an infrared space-based bomber and cruise missile detection capability.[16]

Canada will have to decide soon, however, whether to accelerate the pace of its efforts. It has an opportunity in the next few years to carve out a niche, preferably by undertaking a space program that encompasses both a civilian and a military dimension. In civilian terms, Canada's anticipated participation in the space station and its plans for a civilian surveillance satellite (Radarsat) and a commercial mobile communications satellite (MSAT) could provide enormous benefits. In military terms, unless Canada moves quickly to develop a passive space-based defence capability, it may well be unable to sustain a relevant role in North American aerospace defence simply because the United States will already have deployed effective systems unilaterally.

[16] *Ibid.*, October 3, 1985, p. 34:31.

Chapter IV

CANADA'S TRADITIONAL CONCERNS AND INTERESTS

The decision on the part of the Canadian government to establish NORAD with the United States was the culmination of a trend toward increased cooperation that had begun during the Second World War. Canada considered nuclear deterrence the best available means to avoid war and enhance Canadian national security interests and strongly shared the U.S. conviction that Soviet long-range bombers posed a major threat to North America.

The concerns of the minority of Canadians opposed to NORAD stem from their fears of a strictly bilateral arrangement with a vastly superior military ally. They prefer multilateral approaches, not only in foreign, economic and political relations, but also in the strategic area. For this reason, they generally recognize that the Atlantic Alliance provides an institutional setting that affords us the opportunity to collaborate with other small allies in defining common objectives and in influencing U.S. decisions. They see no such opportunity in NORAD, which is essentially a bilateral arrangement although it covers the North American region of NATO.

A. Influence

There is a notable difference of opinion among Canadians over the nature of our influence on our southern neighbour. Some fear that whatever influence we might have in NORAD and over U.S. strategy is sure to be overwhelmed by the global imperatives of the preponderant partner and, consequently, would better be exercised outside the confines of a formal agreement. Another group — chiefly found in the defence community — is more concerned about the prospect of losing influence in air defence matters.

Those who argue that NORAD undermines Canadian influence point to a series of planning studies that the air forces of Canada and the United States have been conducting over the past several years. These exercises — JUSCADS, the Air Defence Master Plan and Phase I of the Strategic Defence Architecture 2000 review (SDA 2000) — were aimed at upgrading and modernizing NORAD and culminated in the signature of the Quebec City agreement for the replacement of the DEW Line with the NWS. Currently, concerns focus on Phase II of SDA 2000 in which Canada has been invited to participate. Critics claim it is the first step toward Canadian involvement in the defence of the continent against ballistic missiles. Proponents of participation in this conceptual study note the inconsistency of such charges. They observe that the harshest critics of Canada's alleged lack of influence over its NORAD partner are frequently the first to decry Canada's involvement in consultative exercises such as the ones cited above.

Opponents of NORAD point to the inadequacy of consultation during the Cuban missile and Middle East crises of 1962 and 1973 as evidence that Canada has no influence. The opposing view is that given the difference in power between the two countries, and the strategic concerns of the United States, the fact that the consultation process has occasionally been bypassed is not entirely surprising. John Holmes advised:

> it is probably wiser from our point of view to accept, although not necessarily without protest, that because of the ultimate requirement of secrecy about military action we are not going to be consulted in such circumstances.[1]

Today those who fear the erosion of Canadian influence through non-participation point to our decreasing involvement in key NORAD functions. With the forthcoming phase-out of the Baker-Nunn camera in New Brunswick, Canada will contribute no facility, and hence no information, to NORAD's Space Surveillance Center. In ballistic missile warning and attack assessment, a key NORAD role, there are no facilities in Canada; nor are any planned. It is true that the North Warning System will represent a marked improvement in NORAD's ability to detect air-breathing threats coming over the pole. But the seaward air approaches to the continent and some areas of Canada will not be covered by Canadian-based facilities if the OTH-Bs can provide a wide enough coverage. Moreover, the trend in airspace surveillance is to space and this is likely to have a significant impact on the importance of Canadian territory. John Hamre, a professional staff member of the U.S. Senate's Armed Services Committee, recently wrote:

> The decision to proceed with the improved DEW Line reflected a technical judgment that it offered capabilities preferable to a north-looking OTH radar. However, the point remains that today's technology provides an opportunity for long-distance detection without relying on Canadian participation. It is a cornerstone of United States relations with Canada that there should be collaboration in the defence of North America. Time and technology are making that a matter of choice, not of necessity.[2]

The United States will be able to rely upon its own national land-based and space-based surveillance facilities for warning and assessment of ballistic missile, space, and air-breathing threats. Canadian territory could still be important for active defence against bombers and cruise missiles but, as this report states elsewhere, the United States is not putting much emphasis on active defence at this time.

Some in Canada worry that Space Command, SDA 2000 and SDI will draw Canada into ASAT and BMD. Major General Ashley holds a different view. He noted that with the establishment of Space Command,

> the division of responsibility may eventually make it difficult to participate in ventures that should be of interest [to Canada] . . . . What I mean by that is in space-based radar surveillance of the atmosphere . . . space is a dimension that has great potential to serve sovereign interests.

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[1] *Proceedings*, October 10, 1985, p. 37:27.

[2] John Hamre, *op. cit.*, p. 25.

> The more we isolate ourselves from joint ventures on the grounds of potential linkages, the more we leave ourselves behind in the advancing technologies related to space.[3]

Some Canadians contend that the United States places a high priority on obtaining Canadian agreement for its future strategic plans, and that this gives us significant influence in Washington. Others agree that the United States welcomes Canadian involvement, but argue that the United States is unlikely to consent to significant institutional changes simply to accommodate Canadian inhibitions over the fact that it may not always be easy for the public to distinguish NORAD's air defence and aerospace surveillance roles from the Unified Space Command's activities. The Americans might well question the value of sharing the command of North American aerospace defence with a reluctant Canadian partner. To put it simply, some Canadians fear that the United States may itself come to the conclusion that it would be better off if NORAD were terminated and new, less formal arrangements were made to cover air defence — as opposed to aerospace defence.

B. Nuclear Weapons

Nuclear weapons have aroused the concerns of some Canadians in two different ways. The more traditional issue has been the presence of nuclear weapons on Canadian soil. A second and more recent concern of the disarmament movement has been about the directions that U.S. strategic doctrine is alleged to be taking. In both instances our defence policy is judged by critics to be at variance with our choice not to develop nuclear weapons and our policy in favour of non-proliferation.

Although NORAD's role was to provide for the joint command of air defence forces, it was evident from the beginning that this task was directly linked to the U.S. nuclear offensive posture. NORAD was meant not so much to provide protection for the Canadian and U.S. civilian populations as to provide warning and active defence in case of a pre-emptive Soviet bomber attack against U.S. strategic bomber forces and related command and control facilities. NORAD would protect Canada and the United States (and by extension the West) by protecting the nuclear deterrent of the day.

In addition to protecting the deterrent, Canadian forces were to be equipped with U.S. nuclear weapons and there were even plans for the deployment of nuclear-armed U.S. bombers to Canadian air bases in the event of an alert. After a prolonged controversy in the 1960s and 1970s, during which time nuclear roles were accepted for the Canadian Armed Forces and then abandoned, the government became embroiled in a new nuclear-related controversy over its 1983 decision to permit the testing of the U.S. air-launched cruise missile in Canada. More recently, U.S. naval operations in or near Canadian waters have come under renewed scrutiny since New Zealand banned visiting U.S. nuclear-powered or nuclear-armed vessels from its ports.

Most Canadians agree, however, that we must balance our concerns over nuclear weapons with our Alliance obligations. As former Prime Minister Trudeau pointed out in an open letter to the press about cruise missile-testing in Canada, "it is hardly fair to rely on the Americans to protect the West ... [some Canadians are] eager to take refuge under the American umbrella but don't want to help hold it".[4]

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[3] *Proceedings*, December 6, 1985, p. 52:11.

[4] Open letter of the Prime Minister of Canada to the Canadian press, May 10, 1983.

C. Dependency in Foreign Policy

Canadians take pride in their reputation as "honest brokers". Critics of Canadian foreign policy would prefer an enhanced Canadian role at the United Nations, a greater commitment to development assistance to countries of the "South", and more determined efforts to build bridges between East and West. They would feel more comfortable with a neutral status for this country, or at least, in the words of Stephen Clarkson of the University of Toronto, a "3-N position: northern, non-nuclear, national — approach to defence".[5] In their view, Canada should both renew its multilateral options and promote security in a global context by concentrating on what are regarded as more fundamental questions such as deprivation and development.

Many Canadians emphasize, however, that alliance is not forced upon us, but is the clear choice of an independent sovereign state, and that our defence policy has not detracted from our ability to conduct an independent foreign policy. The non-aligned and other Third World nations recognize that Canada is not neutral in the East-West context. This has never prevented them from accepting Canada as a peacekeeper or from working closely with this country in multilateral forums such as the United Nations and the Commonwealth.

D. Economics

Shortly after the establishment of NORAD, Canada and the United States entered into a Defence Production Sharing Agreement which led, a few years later, to a complementary Defence Development Sharing Agreement. While it was never formally stated, there appeared to be an implicit link between the military and industrial agreements. In order to participate fully in NORAD, Canada would have to maintain a high level of military sophistication and relatively high expenditures. As the Avro *Arrow* dramatically demonstrated, however, Canada could not afford to develop major weapons systems and would have to buy them offshore, principally from the United States. Partly in order to compensate for this drain, the United States agreed to give its Canadian partner in NORAD access to its defence market on terms not available to the other NATO allies. Most analysts agree that this was an important advantage for Canadian defence industries, but also note that it tied them to the U.S. defence market and brought across the border many subsidiaries of major U.S. defence contractors.

Disarmament activists and a number of academics are concerned about the value of the defence industry to Canada. They challenge the assumption that defence production provides economic benefits equal to those of investment in civilian industries. Pointing to the impressive economic performance of postwar Japan and the low level of defence investment in that country, they call for the widespread conversion of military to civilian industries. They regard the supposed benefits of the DD/DPSA as mirages, claiming that the capital-intensive nature of defence industries preclude them from generating large numbers of jobs. They also argue that spin-offs from military to civilian technologies have been vastly overrated. Any jobs that would be created in Canada by defence production, moreover, would inevitably be balanced by the creation of an equal number of jobs in the United States. As Ernie Regehr of Project Ploughshares points out, "No matter how much we sell to the United States, it must always be reciprocated by an equal amount of purchases. . . .The

[5] *Proceedings*, November 20, 1985, p. 46:21.

extent of our access to the military market in the United States is determined by the extent of our purchases [there] ".[6]

The defence community disputes these assertions, stressing the employment, investment and technological benefits of the DD/DPSA and defence production in general. Some of the major Canadian-owned defence firms do a majority share of their business with the United States. Even they, however, along with government officials, recognize certain problems with the DD/DPSA. A number of these were discussed in a brief prepared for the Committee by the Ministry of State for Science and Technology which noted that free trade between two economies very unequal in scale compels the economically smaller to attempt penetration of the larger market with products supplementary to the latter's own. Consequently:

> Canada has hardly any systems sales. All our market success, as a generalization, lies in components and sub-systems. This is the result of Canadian industry being over-specialized in Canada/U.S. defence trade, and it restricts our overall commercial operations in the profitable overseas defence trade.[7]

To make matters worse, "the U.S. spends typically 150 times more than Canada in research and development, and this has gone on for many years".[8]

E. Sovereignty

When NORAD was established, the fears of a small but articulate group of Canadians were heightened by the fact that NORAD's regions straddled the border while U.S. forces personnel manned radar bases on Canada's soil. Now that the new North Warning System will be built and manned entirely by Canadians, these misgivings may be assuaged. Concern persists, however, among some northern Canadians that the NWS will "still be a distant early warning system for the American heartland only" and will do nothing to defend the western Arctic or the Arctic islands.[9]

Fundamentally, what still concerns some Canadians about defence cooperation with the United States is the continentalist framework in which this cooperation is necessarily carried out. They see it as working counter to Canada's efforts at preserving its distinctiveness in North America and the multilateral approach this country seeks to take in the conduct of its foreign affairs. Others make the point, however, that the act of alliance entails a necessary sacrifice of sovereignty. In this respect, Canada may be better off than some other Western allies. There are no major U.S. bases or nuclear weapons on Canadian soil, for example. Moreover, institutions such as NORAD, which some view with suspicion, may in fact contribute to preserving sovereignty. As John Holmes noted:

> Where such Canadian-American institutions exist — and there are really very few — these are often regarded by critics as instruments for continentalization. I have always argued that they are designed, in fact, to stake out and protect the Canadian interests in a lopsided continent.

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[6] *Ibid.*, November 18, 1985, p. 43:11.

[7] Supplementary brief of the Ministry of State for Science and Technology, p. 7.

[8] *Ibid.*, pp. 4-5.

[9] Tom Butters, *Proceedings*, September 17, 1985, p. 28:9.

> Continentalism is more like a force of nature which requires the discipline of institutions and regulations.[10]

NORAD may arouse Canadian concerns about sovereignty and independent policy-making, nuclear weapons and economic dependency. But as some observers have recognized, it undoubtedly addresses U.S. concerns over the aerospace threat to North America. For all the reservations some Canadians have about NORAD, formal defence cooperation with the United States has certainly spared us the innumerable strains that an unsatisfactory relationship would create. Since most Canadians share the U.S. view of the threat to this continent and believe in the necessity of defence, they conclude that NORAD also saves us considerable expenditure.

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[10] *Ibid.*, October 10, 1985, p. 37:25.

Chapter V

THE BROAD ISSUES BEFORE THE COMMITTEE

In the course of its inquiry, the Committee heard a wide range of conflicting views on the nature of Canada-U.S. defence relations and the implications of a renewal of the NORAD agreement. For every point, a counter-point was made; for every objection, a counter-objection raised; for every argument, a counter-argument voiced. This chapter is intended to convey an idea of the baffling array of facts, misconceptions, beliefs, and opinions presented to the Committee. It summarizes the basic options concerning the issue of NORAD's renewal and contrasts the responses of witnesses to the key questions Members considered before reaching the conclusions and recommendations presented in the following chapter.

A. The Basic Options

1. *The Case for Terminating the NORAD Agreement*

The number of witnesses who argued for the outright termination of the NORAD agreement was small. The most prominent among them were the national representatives of Project Ploughshares, who appeared in Ottawa with officials of the Canadian Council of Churches and the Canadian Conference of Catholic Bishops. They rested their case on the following analysis:

- The United States has changed its strategic policy and is developing war-fighting options which would allow it to contemplate a first strike against the Soviet Union in a crisis.[1]

- NORAD has contributed to this dangerous shift. The recently approved modernization of its assets will, for example, turn the old warning system into a comprehensive active air defence system. This is highly destabilizing, since it can only be interpreted as an attempt to broaden U.S. nuclear options by denying the Soviet Union the use of its bombers to carry out a retaliatory second strike in response to a U.S. first strike.[2]

- Admittedly, the immediate plans call for limited active defence capabilities, but "the North Warning System . . . is a kind of Trojan horse" for a comprehensive air defence system.[3] Moreover,

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[1] *Proceedings*, November 18, 1985, p. 43:7.

[2] *Idem.*

[3] *Ibid.*, p. 43:14.

> one has to view NORAD and air defence within the larger context and . . . one has to set as a benchmark the difference between surveillance and control of airspace on the one hand and the integration of Canadian air defence forces into a comprehensive air defence system as part of overall strategic defence [on the other].[4]

- Although operational systems are unlikely to be available for "15 or 20 years",[5] NORAD also threatens to involve Canada in ballistic missile defence, for which the United States will need access to our territory. NORAD will also give us an ASAT role, since the United States has chosen the most modern of its air defence interceptors, the F-15 aircraft, as its ASAT launcher.[6]

- Since "the contribution Canada is proposing to make to NORAD undermines deterrence",[7] it is not "compatible with Canadian interests and responsibilities"[8]. Consequently, NORAD should not be renewed "unless [we] can make . . . it an instrument for the carrying out of Canadian [objectives]"[9].

- Non-renewal would not spell the end of Canada-U.S. defence cooperation. First, Canada is well aware of the fact that

> the United States cannot but view what happens in Canada as vital to its own security and that Canada does have a responsibility to ensure that direct military threats to the United States cannot be launched from Canadian territory or . . . become possible by virtue of Canadian neglect . . . [10]

Second, we would not cease to perform our traditional surveillance function; we would only do so independently. After all,

> the point is not the cut-off of relationships between Canada and the United States. To plan an early warning line, you have to have agreements . . . to transfer information . . . .[11]

- Finally, concerns over the impact of NORAD's termination may be exaggerated:

> The relationship between Canada and the United States is not so fragile that the non-renewal of NORAD would end it.
>
> There is obviously a relationship there [as] the United States has a great deal of concern about what happens in Canadian territory. That gives Canada a seat at the table.[12]

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[4] *Ibid.*, p. 43:30.

[5] *Ibid.*, p. 43:16.

[6] *Ibid.*, p. 43:9.

[7] *Ibid.*, p. 43:19.

[8] *Ibid.*, p. 43:11.

[9] *Ibid.*, p. 43:26.

[10] *Ibid.*, p. 43:6.

[11] *Ibid.*, p. 43:36.

[12] *Idem.*

2. *The Case for Suspending Judgment*

The number of witnesses who argued for a short-term extension rather than for a renewal was also relatively small. Their analyses varied little from those presented by Project Ploughshares. They denounced what they saw as a shift in U.S. strategy, the transformation of NORAD into an active defence adjunct to a nuclear war-fighting strategy based on first-strike options, the likely stationing of ASAT-capable U.S. F-15s in the North, and the new role of NORAD in the overall architecture of the ballistic missile defence that the United States is seeking to develop.

While not optimistic that the situation would change, these disarmament groups and academics seemed willing to suspend judgment in the interim. Spokesmen for the Toronto Disarmament Network, for example, suggested that the current agreement be extended for one year only.[13] In their view, "the quick pace of technological and strategic developments have brought changes to NORAD's role that require full public discussion".[14] They did not rule out an eventual renewal of NORAD: "This recommendation is not intended to kill the agreement after one year".[15] In most instances, however, the implication was clear that the technological and strategic trends had built a case against continued Canadian participation in NORAD and that a full public debate was needed during the period of the agreement's extension. NORAD would be terminated unless current plans could be altered to allay the fears of the witnesses.[16]

3. *Three Very Different Cases for Renewal*

Most of the witnesses who appeared before the Committee gave support or consent to the renewal of the NORAD agreement. They did so for widely different reasons, however, and a significant number, especially in the disarmament movement, endorsed NORAD with such faint praise that their approvals sounded more like refusals.

(a) *The Reluctant Rationale*

Several academics and those disarmament groups that did not declare outright opposition to renewing the agreement expressed concerns similar to those of witnesses who opposed renewal or were not prepared to go beyond a short-term extension. The impact of what they saw as a major shift in U.S. strategy and of the Strategic Defence Initiative topped the list of their concerns. Although reconciled to renewal, they counseled caution and put important conditions on Canada's continued participation in the combined command. Chief among these was the reinsertion of the "ABM clause". Other conditions frequently put forward included: keeping the number of air defence interceptors to a minimum, banning the ASAT-capable F-15 altogether from Canadian air space, and formally rejecting SDI and the deployment of ballistic missile defence systems in Canada.

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[13] *Ibid.*, November 21, 1985, p. 47:26.

[14] *Idem.*

[15] *Ibid.*, p. 47:27.

[16] Witnesses who advocated terminating NORAD or extending the agreement for a short period and those who were reluctantly prepared to accept a 3-5 year renewal had similar analyses of current trends and of the existing situation, but they proposed sometimes markedly different remedies. The Lethbridge Nuclear Disarmament Coalition, for example, saw the CF-18 as a destabilizing weapon system (*ibid.*, October 31, 1985, p. 41:57), while the Toronto Disarmament Network favoured assigning a Canadian air defence role to the CF-18s of the air group currently stationed in Germany (*ibid.*, November 21, 1985, p 47:23).

Usually, these witnesses suggested renewal terms of at most five years. They saw this as less of a problem than a long-term or indefinite renewal. Voice of Women also recognized that in the present political context renewal was almost a foregone conclusion.[17] Some also took heart in the fact that in three to five years the directions in which SDI and the U.S. Unified Space Command are heading would likely be clearer and more difficult to dispute.

(b) *The Strategic Rationale*

Several academics as well as retired and serving armed forces officers and government officials made a strong case for NORAD on purely or mainly strategic and military grounds. By and large, their arguments were similar. A typical analysis was provided by Cynthia Cannizzo in a written brief to the Committee:

- Statements made by Washington officials as well as current and projected U.S. weapons programs are "consistent with a 'war-fighting' as opposed to a 'secure second strike' posture."[18] But "an alternative and equally, if not more, plausible explanation than actual war preparation for the posturing of the Reagan administration is that it is simply the most recent attempt to bolster the credibility of deterrence. Deterrence ultimately remains based on MAD, as MAD is not merely a doctrine, it is a fact of the strategic environment."[19] What both the statements and the weapons reflect is the nuclear paradox: "nuclear weapons are so destructive they must never be used, yet to ensure that they are not used (deterrence), the super powers must convince each other that they would in fact use nuclear weapons (war-fighting)."[20]

- NORAD is not an offensive command. Its primary function is to give warning of bomber, cruise missile or ballistic missile attack. Canada contributes to surveillance and warning against the air-breathing threat, but the "systems currently based on Canadian territory and those intended for such basing . . . have almost no function with regard to ballistic missiles".[21]

- Even if one considers "only the [Soviets'] current long-range bombers, leaving aside projected force improvements and medium-range bombers, the potential threat . . . is still high";[22] "the possibility of . . . attack may be less, [but] it is not zero" and an air-breathing attack could inflict "enormous damage on Canada and the U.S."[23] Moreover, "Canada would continue to face a threat even if [it] were to declare itself unilaterally neutral."[24]

- "Recognition of the continued existence of a Soviet bomber threat and the potential for its expansion through ALCMs, *Backfires* and, most recently, *Blackjacks* makes updating [NORAD's]systems a critical necessity".[25] Canadians have no reason to feel

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[17] *Ibid.*, November 28, 1985, p. 50:57.

[18] Brief of Professor Cynthia Cannizzo, p. 2.

[19] *Idem.*

[20] *Idem.*

[21] *Ibid.*, p. 4.

[22] *Ibid.*, p. 6.

[23] *Ibid.*, p. 7.

[24] *Ibid.*, p. 8.

[25] *Ibid.*, p. 12.

uncomfortable about current modernization plans since the "installations of the NWS are not related to space surveillance or ballistic missile management".[26]

- The real question facing Canadians, therefore "is not whether Canada is at risk, because it clearly is, but whether NORAD can help reduce that risk".[27] And it is worth pondering that "if Canada were to abrogate all responsibility in the air defence field, it is likely that, given its own threat perception, the U.S. would unilaterally undertake such activities".[28]

- This would certainly have an impact on Canadian sovereignty, as would the reduction in Canada's surveillance capability which would follow a probable loss of U.S. technology and funding.[29] The combined command may not be problem-free, but "if Canada were to withdraw from NORAD it is unlikely to be better off".[30]

- "Air defence and NORAD [will] remain for the foreseeable future consistent with Canadian strategic policy (support for deterrence based on MAD) and Canadian objectives of national control, input into NORAD decision-making, and sovereignty protection".[31] Since major developments are unlikely at the Geneva negotiations or in SDI research over the next few years, the NORAD agreement should be renewed.[32]

(c) *The Industrial Rationale*

All industry representatives invited to appear before the Committee favoured the renewal of NORAD. Most agreed that the case for renewal must ultimately rest on its military and strategic merits. They emphasized, however, the value to Canada of arrangements which, while not perfect, benefit this country technologically and commercially. In the words of Alex Curran of SED Systems:

> I do not see the extension or non-extension of the North American Aerospace Defence Agreement as being simply an aid to industry .... The decision before this Committee is: is it required, is it necessary, is it desirable to extend this treaty? ... If so, how then do we implement it in such a way as to get the benefits, the greatest number of job opportunities, and so on.[33]

John H. Simons pointed out that Canada could not possibly maintain even its limited defence industrial base if Canadian firms did not have relatively easy access to the U.S. military market: "We cannot hope to build a defence industrial base in Canada by only

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[26] *Idem.*

[27] *Ibid.*, p. 9.

[28] *Ibid.*, p. 11.

[29] *Idem.*

[30] *Ibid.*, pp. 11-12.

[31] *Ibid.*, p. 12.

[32] *Ibid.*, p. 13. Several proponents of NORAD's renewal made their support conditional on certain terms being met in the agreement itself or in some other instrument. Former Canadian Ambassador to NATO, John Halstead, for example, insisted on a recognition of the importance of the ABM Treaty and the link between NORAD and NATO (*Proceedings*, November 19, 1985, p. 44:10). Cynthia Cannizzo suggested that the Committee might wish to consider including "a clause prohibiting SDI linkages without prior negotiations" (Brief, p. 13) both to protect against an unexpected technological breakthrough and to underscore Canada's position on SDI.

[33] *Proceedings*, p. 42:13.

supplying DND's needs".[34] He summed up the general feeling among industry representatives in his call for the renewal of the NORAD agreement:

> It is vital to Canada that the defence industrial base survives and grows, and it is vital to the defence industry that it retains its access to the U.S. defence market and continues to be considered as part of the U.S. defence industrial base. To achieve both of these goals, it is therefore vital that Canada continue to cooperate with the U.S. in defence areas generally, and in NORAD in particular.[35]

4. *The Case for Indefinite Renewal*

John MacDonald, Chairman of MacDonald, Dettwiler and Associates, put the case for indefinite renewal of the NORAD agreement most bluntly: "as long as NORAD exists, Canada should be a participant . . . if we live in North America, we should participate in the defence of the continent."[36]

The proponents of this course of action share the world-view of those who advocate renewal for a fixed period of time on strategic grounds. They perceive NORAD as a significant element in the West's deterrence posture. Although they do not always state their reasons for favouring an indefinite extension, they seem to rest their case on as strong a set of ideological assumptions as NORAD's opponents. A former Deputy CINCNORAD, LGen. Adamson (ret.), was quite clear; NORAD, he said,

> is more relevant now than it has ever been in its relatively short history. I regard it as the international equivalent of our national police forces . . . [it] is the eyes and ears of the defences of not just North America, but indeed Western Europe and the remainder of the free world. Its relevance to Canada . . . is even more important because a quirk of geography has placed us squarely between . . . the recognized leaders of the international ideological struggle . . . therefore . . . like it or not, Canada will have a vested interest in NORAD for some time to come . . .[37]

This led him to conclude that "the NORAD agreement should be renewed, not for a defined period, but on an indefinite basis, leaving either party the right of withdrawal on . . . one year's notice".[38]

B. The Major Questions

Almost unanimously, disarmament groups, academics, and strategists joined government officials and military officers in praising NORAD as it exists today and the combined command's contribution to peace and global stability. Few failed to recognize that it provides the nuclear systems of the Western Alliance based in the United States with the

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[34] *Ibid.*, November 21, 1985, p. 48:18.

[35] *Idem.*

[36] *Ibid.*, October 24, 1985, pp. 40:65-66.

[37] *Ibid.*, pp. 40:108 and 110.

[38] *Ibid.*, p. 40:110.

early warning necessary to make deterrence work. Critics focused instead on what NORAD might become and the role it might play should certain trends be confirmed and technological research make it possible to consider deploying certain weapons systems. But even those groups most adamantly opposed to more or less automatic renewal of the agreement suggested they would reconsider if NORAD could be strictly confined to its traditional passive defensive role. A summary of the contending views on the most significant questions before the Committee is provided below.

1. *U.S. Strategy: Has it Changed*?

The most frequent and potent argument against continuing Canadian participation in NORAD is the allegation — made by all disarmament groups, Douglas Ross of the University of British Columbia, Trudy Govier of the University of Calgary, and many of their academic colleagues as well as strategic analysts such as Larry Hagen, then of the Canadian Centre for Arms Control and Disarmament, and Geoffrey Pearson, of the Canadian Institute for International Peace and Security — that the United States has changed, or is in the process of changing its strategy, from one that bases deterrence on the threat of retaliation and Mutual Assured Destruction, to one that emphasizes the means to prevail and requires the capability to strike first and prosecute a prolonged nuclear war. In their view, the shift has been gradual, but it is accelerating and may soon become irreversible. It began during the Nixon administration with the "Schlesinger Doctrine" calling for greater flexibility in the plans for a response to aggression. It continued under President Carter with PD-59 emphasizing "countervailing strikes" (attacks against "counterforce" rather than "countervalue" targets — i.e. militarily significant targets such as defence and command facilities rather than cities). Then came the Reagan administration's NSDD-13, which sets forth a nuclear weapons employment policy. The latest chapter was added in 1983, with the Strategic Defence Initiative, whose stated objective is to render obsolete the traditional deterrence based on the threat of nuclear retaliation and to substitute instead a new doctrine of defence even against a massive nuclear attack. Mutual Assured Survival would replace Mutual Assured Destruction.

The people most concerned about shifts in U.S. strategy see a clear confirmation of their worst fears in U.S. weapons research and procurement programs now underway or under consideration. They mention the MX and *Midgetman* ICBMs, the *Pershing II* medium-range ballistic missile; the *Trident* SLBM, the advanced technology (or "stealth") aircraft and cruise missile, the ASAT capability of F-15 aircraft, and, above all, "Stars Wars" (i.e., the Strategic Defence Initiative).

Although few are unconcerned by such announcements and declarations when they emanate from the senior echelons of the U.S. bureaucracy and, sometimes, the White House itself, the majority of witnesses outside the disarmament movement, and especially academics, allow that the changes in U.S. strategy have more bark than bite and are, in effect, "marginal".[39] They concede that there is little concrete evidence of a shift[40] and recognize that the U.S. government — and even presidential advisors — rarely speak with one voice.

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[39] Professor Harriet Critchley, *ibid.*, October 31, 1985, pp. 41:22-23.

[40] See for example Professor Doug Ross, *ibid.*, October 24, 1985, p. 40:17; and Professor David Cox, *ibid.*, November 19, 1985, pp. 45:24-25

John Halstead argued in support of NORAD that U.S. strategy remains NATO strategy and, as such, is clearly committed to a deterrence based on retaliation and MAD.[41] Others who, like him, do not subscribe to the theory that U.S. strategy has undergone a major change, suggest a different reading of NSDM-242, PD-59, and NSDD-13. They accept the U.S. explanation that these are simply attempts to build an extra rung in the escalation ladder, measures designed at least to postpone the moment when leaders would have to consider an all-out attack on the other side's population if hostilities broke out.[42] Likewise, MX, *Midgetman*, *Trident*, *Pershing II*, stealth bombers and cruise missiles, ASAT, and SDI are variously explained as plans or programs made necessary by the growing obsolescence of existing systems or by the need to respond to comparable programs in the Soviet Union. Some briefers also observed that most of the proposed systems have had (or have yet) to overcome serious budgetary and other obstacles to go from drawing boards to deployment.

2. *The Strategic Defence Initiative: Do We Need an ABM Clause?*

SDI is the second major rationale for opposing NORAD. Relatively few of those who invoke it rest their case on the argument that it will not work at all. On the contrary, most seem to take it for granted that some kind of system will eventually be deployed — and will involve ground-based anti-ballistic missile weapons that defence planners will want to deploy in Canada. Indeed, Operation Dismantle and others go further; they argue that BMD systems may be deployed within such a relatively short time that Canada cannot afford to postpone taking them into account until the NORAD agreement expires next, even in as little as three to five years.[43]

The Prime Minister and the Minister of National Defence made it clear on September 7, 1985 that Canada would not participate in SDI research on a government-to-government basis (see Appendix A). Some critics of SDI are not prepared to take these declarations at face value; but even those who are want Canada to go further in barring any future linkage between SDI and NORAD. They argue for the reinsertion of the so-called "ABM clause", which was withdrawn from the agreement in 1981 although it had been a standard feature in four previous renewals and extensions, beginning in 1968. The clause provided that the NORAD agreement "will not involve in any way a Canadian commitment to participate in an active ballistic missile defence".[44]

Here again, concern was not unanimous. A number of other observers, including C.R. Nixon, have called for quick deployment of BMDs to save mankind from a MAD future.[45] In their view, the traditional deterrence based on the threat to retaliate cannot be counted upon to provide stability forever; sooner or later it is bound to break down, if not by design, then by accident. Others, though perhaps less sanguine about SDI, argued against the reinsertion of the ABM clause either because of the damage such an initiative would cause to Canada-U.S. relations, or on the ground that insisting to have it restored would be seen to imply that we expect the United States to abandon the ABM Treaty.[46]

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[41] *Ibid.*, November 19, 1985, p. 44:13.

[42] John Anderson, *ibid.*, December 6, 1985, p. 52:5.

[43] Operation Dismantle, *ibid.*, November 21, 1985, p. 48:7.

[44] *1968 NORAD Agreement*, p. 2.

[45] C.R. Nixon, notes for a speech to various branches of the Canadian Institute of International Affairs, November 1984, p. 12.

[46] John Halstead, *Proceedings*, November 19, 1985, p. 44:8.

3. *SDA 2000: Is It Dragging Us Into SDI?*

Even the presence of an ABM clause in the NORAD agreement would not reassure most of the witnesses who call for the clause's reinsertion. They fear that a number of air defence systems under consideration or about to be deployed, including early-warning facilities, could in future be used to support or complement ballistic missile defences. They are especially worried about the invitation recently received by Canada to participate in the conceptual planning exercise known as "Strategic Defence Architecture 2000, Phase II". Phase I, now completed, dealt with air defences; Phase II is intended to "develop and integrate analogous planning for future space and ballistic missile defences".[47] Operation Dismantle pointedly asked how participating in the study could be interpreted as anything but a tacit endorsement of its objectives; after all, we would never consent to studying the matter of our sovereignty over the Northwest Passage.[48]

Proponents of SDI are not alone in rejecting the argument that participation in the SDA 2000 study would automatically lead to our eventual involvement in ballistic missile defence if systems are deployed. Neither are they alone in their belief that having Canadian officials agree to discuss the concepts involved in SDA 2000, Phase II with their U.S. colleagues does not signal concurrence with the aims of SDI. Even experts decidedly cool to SDI, like Larry Hagen, find it preferable that we should be involved in SDA 2000 and informed about it than allow the United States to make plans affecting Canada without the benefit of Canadian views. For them, "participation . . . does not mean Canadian blanket endorsement of ballistic missile defences".[49]

4. *Command Arrangements: NORAD? Space Command? or NORAD/Space Command?*

Another major objection to the renewal of NORAD arises from concerns over changes in the structure of U.S. forces commands responsible for the aerospace defence of North America. The creation of the United States Unified Space Command on September 23, 1985 is seen as especially ominous. This command, whose precise responsibilities have yet to be determined, and whose assets may or may not come to include all U.S. military space resources, was placed under the command of General Herres, USAF, already Commander of the U.S. Air Force Space Command, and Commander-in-Chief of NORAD (as well as Commander-in-Chief of the U.S. Aerospace Defense Command during the transitional period before ADCOM is fully phased out later this year).

Some of the disarmament group representatives, and even academics, seem to be under the impression that his deputy in NORAD, a Canadian officer whom the agreement designates to take over command of NORAD in CINCNORAD's absence, would (or might) also act as deputy commander of the two other commands located at Colorado Springs even though these are strictly U.S. national commands.[50] An even larger number of witnesses seem to assume that, given a single commander, some of the functions of all three commands

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[47] *Ibid.*, October 9, 1985, p. 36:10.

[48] *Ibid.*, November 11, 1985, p. 48:8.

[49] "U.S. using NORAD to solicit Canadian role in Star Wars", *Globe and Mail*, November 7, 1985. (Checked with Larry Hagen for accuracy.)

[50] See for example Lethbridge Nuclear Disarmament Coalition, *Proceedings*, October 31, 1985, p. 41:45 and University of Calgary Peace and Conflict Studies Group, *ibid.*, p. 41:68.

— NORAD, the USAF Space Command and USC — are bound to become integrated to the point where they become indistinguishable in fact, if not in organization. Other observers have gone further and forecast that the same U.S. officer might eventually be put in charge of the nuclear offensive systems as well as of the defensive systems of the United States.[51]

Not all witnesses see the evolution of U.S. command structures in this light, and some took pain to explain that "multi-hatting" of military officers is neither new nor unusual. For example, the commander of Canada's Maritime Command is also in command of the Canadian Atlantic Ocean sub-area of NATO and of the Atlantic military region of Canada, which covers the land area of all four Atlantic provinces as well as the sea off their coasts. These witnesses made it clear that Deputy CINCNORAD has no responsibilities whatsoever under any of the U.S. national commands for which the current CINCNORAD, Gen. Herres, is responsible. William Arkin even pointed out that the U.S. component of NORAD has a contingency plan to operate without the participation of Canadian officers in specified circumstances.[52] Gen. Herres himself stated that even if ballistic missile defences should ever be deployed, Deputy CINCNORAD could have no responsibilities for them unless Canada and the United States agreed to make BMD a function of NORAD. Some Canadian military officers added that such advantages as might be gained by giving command of NORAD and the USC to two different generals would probably be outweighed by the disadvantages to Canada of a situation which might result in diminished access to information for Canadian officers and decision makers.

5. *The Bomber Threat: Do We Need to Upgrade our Northern Defences*?

A major concern of most of those who have reservations about renewing NORAD is that what they view as marginal improvements in the Soviet bomber fleet has served as the pretext for a decision to expand North America's bomber defences beyond what they consider justifiable limits. They agree with David Cox of Queen's University that there has been no significant increase in the number of Soviet bombers in many years and that this fleet is unlikely to increase in the years ahead (and would in fact decrease under certain interpretations of Soviet negotiating offers at Geneva).[53] They also point to the recent reduction in the estimated capability of the *Backfire*, emphasize the age of the propeller-driven *Bear*, and draw attention to the obvious difficulties experienced by the USSR in introducing the *Blackjack*. Some, like Students for Peace and Mutual Disarmament, even play down the importance of Soviet air-launched cruise missiles.[54] Above all, they scoff at suggestions that the Kremlin would ever contemplate launching a bomber attack on North America when air-breathing platforms are so vulnerable to detection and when ballistic missiles and submarine-launched cruise missiles could much more easily provide the stealth required for a pre-emptive first strike.

The same witnesses warn that the scenarios invoked to justify the planned upgrading of NORAD's assets in Northern Canada are disingenuous. In their opinion, this modernization is intimately tied both to the changes being made in U.S. strategy and to SDI. No single statement was brought more often to the Committee's attention than the remark, attributed to several U.S. military and civilian officials, that "it would make no sense to put a roof over

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[51] End the Arms Race, *ibid.*, October 24, 1985, p. 40:83.

[52] Brief of William Arkin, p. 14.

[53] *Proceedings*, November 19, 1985, pp. 45:18-19.

[54] *Ibid.*, October 24, 1985, pp. 40:49 and 40:58.

North America if we were to leave the windows and the doors open". These witnesses see in it a clear admission that the ultimate goal is to turn NORAD into a support element for SDI and U.S. offensive systems. Their nightmare is that the United States may attempt a first strike if it becomes convinced that it could destroy the USSR's ICBMs with relative impunity. SDI and an improved NORAD would both be essential from that point of view: SDI, to stop SLBMs and such ICBMs as might be left intact; NORAD, to deal with the bombers and their cruise missiles.

Many disarmament groups and other witnesses view with special alarm plans being made for Forward Operating Locations and Dispersed Operating Bases in Canada's Far North. They wonder why these are needed at all and fear that the small number of Canadian CF-18s dedicated to air defence and the absence of military radars in Canada's interior will serve as an excuse for USAF AWACS and F-15s — some perhaps equipped for anti-satellite warfare — to be stationed in Canada on a semi-permanent basis.

The perceptions of NORAD's supporters are quite different. They argue that the modernization of NORAD's systems was long overdue in the face of major improvements in the bomber threat. While conceding that the total number of Soviet long-range bombers has increased little in recent years, they hasten to add that the *Bear-H* is a brand new and much improved model of the old aircraft; that for all its troubles the *Blackjack* is expected to enter active service in 1987; that the Soviet AS-15 long-range ALCM is real and quite capable of striking a target from 3,000 km out; and that the *Backfire*, while perhaps not an intercontinental bomber, would certainly make an adequate cruise-missile platform.

They do not deny that ICBMs and SLBMs would make much better first-strike weapons than ALCMs and account for at least 85 percent of Soviet nuclear weapons, but they insist that no military leader, Soviet or other, would fail to take advantage of a "free ride" such as the one insufficient bomber defences in the North would offer. They dismiss as preposterous the contention that plans to upgrade NORAD in the Arctic could make it a complement of SDI and an element in a U.S. first-strike strategy. They point to facts: active force USAF squadrons have been reduced from 6 to 4 and may soon be further reduced to 3; the United States does not plan major expenditures on air defence; and there are no plans to station any U.S. aircraft semi-permanently in the North, although they will train there. Even Canadian interceptors will only be deployed to the FOLs on a random basis.

They also draw attention to the requirements of interception to explain the need for FOLs. Once the Pinetree Line is gone by the end of 1988, unless an AWACS happens to be on a training or other mission in the area where an incident occurs, the continuous military radar coverage necessary to deal with uncooperative aircraft will not be available anywhere south of the NWS.

6. *Sovereignty: Does NORAD Help?*

Martin Shadwick of York University identified some of the reasons why sovereignty is not a major issue at this time within the framework of NORAD. Over the past few years NORAD region boundaries have been realigned to coincide with national borders; Canada ended its dependence on nuclear weapons to perform its air defence mission; and an agreement has just been made to replace a U.S.-owned and -operated DEW Line with a new North Warning System owned and operated by Canada. Concerns over sovereignty tend now to be raised mainly as sub-issues in discussions of three topics reviewed earlier: U.S. strategy, SDI, and the USC. For example, several disarmament groups argued that by staying in NORAD, with U.S. strategy shifting to a war-fighting doctrine, Canada will not only

greatly increase the danger to its people, but will also lose some of its credibility as an advocate of arms control. Others added that we may also find it more difficult to oppose U.S. pressures to accept deployment of BMD systems on our soil and to resist the subordination of NORAD to — if not its absorption into — the USC.

Other witnesses take a totally different view. They believe that NORAD has made a significant contribution to the affirmation of Canadian sovereignty since, without it, we would probably find it difficult to afford the surveillance and communication networks on which we rely for information about our airspace. Many observers hint or say outright that *non*-participation in NORAD would in fact be the real threat to Canadian sovereignty. It could, in particular, lead to a situation where Canada would know little or nothing about probes of its airspace by the Soviet Union and U.S. responses to counter them. To some, the lack of concern about our ability to monitor and intervene in the "hole in the middle" — anywhere between the North Warning System and the U.S. border — is indicative of the fact that our sovereignty is more likely to suffer from neglect than from foreign activities.

New concerns about Canadian sovereignty may, in future, come from this direction. Wesley Wark of the University of Calgary and others warned, for example, that Canada would undermine its own sovereignty if it opts out of defence-related activities in space at a time when others intensify their use of military satellites and ground-based probes of outer space. With the United States less dependent on Canadian territory, and with no significant intelligence assets of our own — i.e. with no geographic advantage and little information to trade — Canada could find that its sources of information dry up even as friends and foes dramatically increase their store of knowledge about this country.

7. *Withdrawal: Would It Be Costless*?

The representatives of defence and other industries and witnesses who favour continuation of the NORAD arrangement raised concerns over the possible impact of the non-renewal of NORAD on Canada-U.S. relations. Congress, for example, might retaliate in the area of trade where a $20 billion Canadian surplus offers a prime target to protectionists. The Pentagon might also stem the flow of much information — as it did to New Zealand when that country refused to allow nuclear-equipped U.S. ships into its ports. Senior U.S. officials confirmed that the DD/DPSA could be seriously jeopardized. This, in turn, would threaten important industrial sectors, such as our civilian and military aerospace industries. Eighty percent of the jobs and revenues in that sector are dependent on export markets situated in the United States or elsewhere, the latter often developed as a by-product of our success in the U.S. market.

Witnesses who oppose or simply tolerate NORAD argued that after a period of adjustment Canada-U.S. relations would remain much the same as they are today. In their view NORAD will not buy us the goodwill of U.S. protectionists; Canada would most probably continue to be given access to all the military data necessary for efficient North American defence cooperation; and the DD/DPSA might well be unaffected, since the benefits they provide are mutual.

C. Other Concerns

This investigation served to bring into sharper focus three other sets of significant concerns which reflect the frustrations of groups left out of, or insufficiently involved in, the defence policy-making process.

1. *Northern Concerns*

In Yellowknife as elsewhere, the Committee heard conflicting views about U.S. strategy, SDI, NORAD's contribution to deterrence and global stability, and the economic impact of Canada-U.S. defence cooperation. As Members had hoped, however, uniquely northern issues were also raised. The mayor of Inuvik and a local MLA both made a strong case for more attention to be paid to the security requirements of the Arctic Archipelago. Not only does its being left outside the coverage of North American peripheral radar lines (currently the DEW Line, soon the new North Warning System) seem to suggest that the North is expendable in strategic terms, but it also increases significantly the danger to northern communities, which would receive little if any warning before the bombers flew overhead or bombs and cruise missiles started exploding in and around them.

The Inuit representatives recognized the need for military activity in the North:

> In terms of our concern for the defence of Canadian sovereignty there is a role for the military. In terms of our concern for international peace and security there is a place for cooperation between Canada and the United States.[55]

The Dene and Metis representatives queried whether "non-alignment and neutrality" might not be a better basis for Canadian security.[56] Yet both Inuit and Dene representatives gave vivid illustrations of why their "fundamental concern is real participation in the development and implementation of Canadian policy in the Arctic with respect to national defence".[57] Mark Gordon, Vice-President of the Inuit Circumpolar Conference indicated, for instance, that:

> in Fort Chimo, in northern Quebec, it is proposed that [a base should be built] for military fighter planes. It also happens to be on a very critical migration route of the caribou. If we have low-flying jets in the critical time of the migration, when the females are carrying their young . . . it could cause . . . miscarriages, which would reduce the ability of the herd to regenerate itself . . . . This same type of worry . . . could be demonstrated across the North. Our resources are very fragile resources, and extra care will have to be given to them.[58]

Later, he described the social impact of an increased military presence in the North:

> [Take] a community of 1,000 people . . . the vast majority would be under the age of 21 . . . the adult male population . . . let us say is 100, large by Arctic standards. If a military base were to be established close to it, you would be getting close to more than doubling the adult male population in the community . . . the impact could be quite devastating.[59]

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[55] Inuit Tapirisat of Canada, *Proceedings*, September 17, 1985, p. 28:50.

[56] *Ibid.*, p. 28:62. (See also the brief of the Dene Nation and the Metis Association of the Northwest Territories, p. 3, recommendations 2 and 3.)

[57] Inuit Tapirisat of Canada, *ibid.*, p. 28:50.

[58] *Ibid.*, p. 28:47.

[59] *Ibid.*, p. 28:48.

Rhoda Innuksuk, of the Inuit Tapirisat of Canada, added:

> We know there will be military activity, and we know this activity will affect us, our communities, and the environment on which we depend. We wish to participate in the definition of policy with respect to national defence in order to minimize the disadvantages and negative impacts of this activity and to maximize the benefits and opportunities it may present.[60]

This theme was echoed by other northern community leaders, including the representatives of the Yellowknife Chamber of Commerce, who emphasized that:

> more local involvement is needed. This should include the maximum use of local businesses for the design and construction of low-technology installations and a breakdown of the project into smaller contracts so local businessmen can participate. It would be advisable to study opportunities for the direct involvement of local residents in the running of the system . . . or otherwise participate in defence-related activities. It surely would be cheaper if local people could be trained to operate the radar than to force some innocent soldier into temporary duties in the cold North. The level of education is increasing rapidly and opportunities for jobs are scarce. It would also have less impact on local communities, where the sudden presence of a contingent of southern personnel and tonnes of material can cause friction and alienation.[61]

2. *Concerns Over the Canadian Armed Forces Reserves*

Concerns over the Canadian Armed Forces Reserves were raised on a number of occasions, but most distinctly in Saskatoon by Desmond Paine, a former reserve brigadier general. He joined other witnesses in deploring the lack of attention paid to the reserves' requirements for clear and meaningful roles in Canada's defense posture, for additional manpower and, especially, for equipment. They left no doubt that reservists could contribute a great deal not only to the security of North America, but also to the protection of Canadian sovereignty. Gen. Paine's contribution was especially useful to the Committee in that it highlighted the role the reserves could play in solving the problems posed by the upcoming dismantlement of the Pinetree Line and the concurrent shift of Canada's alert interceptors northward. The Commander of Northern Region, BGen. Mark Dodd, as well as Inuit representatives also underscored the value of the most overlooked component of Canada's armed forces, the Canadian Rangers, to the defence of the North. The latter also suggested that the numbers of Rangers should be expanded and their roles and equipment upgraded.

3. *Parliamentary Concerns*

The third group to voice its frustration over its lack of involvement in the defence policy-making process consisted of several members of the Committee itself. The Committee recognized that it was being given far more information than in the past and that the

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[60] *Ibid.*, p. 28:50.

[61] *Ibid.*, p. 28:20.

Department of National Defence was quite forthcoming at *in camera* briefings, but some Members expressed concern that parliamentary involvement in policy-making is insufficient on two counts. First, it is not systematic — Parliament is not always consulted. Second, this process does not go far enough: even when parliamentarians are consulted, as they are through this reference, they have a chance to make their views known on general matters, but not on specifics. For example, in December 1980, MPs in committee did provide advice to the former government about the renewal of NORAD, but they were never told that the ABM clause might be withdrawn — and were not given a chance to comment officially when it was.

Several members of the Committee were also upset about not being sufficiently taken into the government's confidence on the subject of Canada-U.S. agreements. The Minister of National Defence did offer to consider a request for *in camera* briefings on the full list of these agreements when the matter was raised in Parliament,[62] but certain Members continued to complain about both their lack of access to information and the fact that eight titles were struck in 1985 from a list of 364 agreements made available to another Parliament in 1980.

[62] *Hansard*, December 4, 1985, Turner-Nielsen, p. 9110 and Rompkey-Nielsen, p. 9114; and December 5, 1985, Hopkins-Nielsen, p. 9206.

Chapter VI

CONCLUSIONS AND RECOMMENDATIONS

The terms of reference of the Committee — "to consider Canadian policy with respect to future defence cooperation with the United States in the North American region with particular reference to air defence and related arrangements embodied in and flowing from the North American Aerospace Defence Agreement" — allowed for a wide-ranging inquiry. The time frame for the study did not. As a result, the Committee has had to remain general in many areas and has focused on the immediate issues of Canada-U.S. aerospace defence cooperation and NORAD's renewal.

A. General

Most Canadians recognize that Canada can no more abstain completely from planning its defence jointly with the United States than alter the facts of geography which place it in a location of critical strategic significance for the United States and in the flight path of the superpowers' ICBMs and bombers. The threat to us is the same as the threat to our southern neighbour: a nuclear attack. Our defence arrangements reflect this. The primary function of the radar systems in Canada's North is to provide early warning of an air attack on North America, and at sea Canadian maritime forces provide surveillance against Soviet submarines. Deterrence depends on timely warning, but it also rests on the capacity of the United States to deliver an offensive response. This situation makes some Canadians uncomfortable; it should not. It conforms with our national interest: like all Western nations, we rely for our security on the U.S. nuclear deterrent. Its credibility can only be enhanced if adequate warning and surveillance of the air and sea approaches to North America are maintained.

Most Members endorse Canada's traditional policy of support for both stable deterrence and arms control as the best means of ensuring lasting international peace and security. They are encouraged by the renewal of arms control negotiations and by the proposals of both the United States and the Soviet Union for deep cuts in nuclear arsenals. They accept the fact, however, that even deep cuts will not rule out the danger of nuclear war. Therefore, in its majority, the Committee recognizes the need to maintain deterrence and is untroubled by activities designed to strengthen it. Canada is not a neutral state. History, tradition, and shared values place us squarely in the Western camp, and most Members agree with Prime Minister Mulroney that

> We must realize that our sovereignty and territorial integrity cannot be safeguarded by mere proclamation or protest .... We require a military capacity to respond to the threats posed by clandestine incursions into our

waters, or probes of our airspace. This is not a question of political expedience or choice. It is a question of responsible national policy.[1]

Accordingly, **the Committee recommends:**

- **that the government continue its policy of close defence cooperation with the United States in the North American region and that, where appropriate, it seek ways of rationalizing or augmenting Canada's defence effort to maximize its contribution to deterrence.**

The Committee further **recommends:**

- **that Canada's defence budget should be increased gradually to bring it closer to the levels achieved by Canada's European allies.**

B. Institutions

The majority of the Committee realizes that, in defence as in other fields, the quality and vigour of Canada-U.S. relations depend at least as much on informal and ad hoc arrangements as on formal structures. Indeed, the tone and dynamism of the North American partnership are largely independent of institutions. Most Members are, nevertheless, of the opinion that if the PJBD were to regain its past prominence, it could provide Canada-U.S. defence cooperation with a clearly identifiable focus and, perhaps, help dispel the impression wrongly held by some Canadians that NORAD has taken on more responsibilities than it was meant to in the formation of the North American defence policy.

C. Defence Development/Defence Production Sharing Agreements

Most Members of the Committee are of the opinion that, generally speaking, the DD/DPSA have served both North American countries well over the years. They are, however, disturbed by evidence that these arrangements have been eroded by a variety of well-intended unilateral measures of which the full impact across the border fails to be appreciated in the country where they are taken. The majority of the Committee agrees with the representatives of Canadian industry who came before it to underscore their concern over U.S. set-aside programs such as the *Small Business Act* and other "Buy American" statutes and regulations. A court of appeal has recently suspended a lower California court ruling making it unlawful for personnel of Canadian corporations to enter the United States to install or service equipment sold by Canadian firms.[2] Members are distressed that the problem arose at all, however, and are concerned that the initial ruling could be reinstated at some other level of the judicial process. Difficulties such as these make Canadian products unattractive to prospective U.S. buyers.

The majority of Members recognize that the industrial benefit packages referred to as "offsets" contribute to eroding support for the DD/DPSA in the United States and do not fully achieve their objectives in Canada when they are not limited to defence procurements.

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[1] Prime Minister Brian Mulroney, "In Pursuit of Peace", notes for a speech to the Consultative Group on Disarmament and Arms Control, October 31, 1985, Ottawa, p. 2.

[2] *Hansard*, December 20, 1985, Winegard-Kelleher, p. 9667.

The DD/DPSA is in and of itself an "offset" arrangement in that it calls for Canadian defence purchases in the United States to be offset by American defence purchases in Canada.[3] Members also agree with Danford Middlemiss's assessment that, over the next several years, the current imbalance in the DD/DPSA account will likely correct itself.[4] The deficit recorded in the past few years seems to have more to do with the magnitude of the re-equipment program of Canada's armed forces than with any lack of success of Canadian companies in getting contracts in the United States.

In light of the evidence before it and of the importance of the DD/DPSA to the development of a North American defence industrial base, and bearing in mind the reaffirmation by Prime Minister Mulroney and President Reagan at Quebec City of "the importance of access to, and participation of, Canadian firms in the U.S. defence market"[5], **the Committee recommends:**

- **that Canada and the United States complete as soon as possible the examination of the issues relating to the Defence Development and Defence Production Sharing Agreements agreed to at Quebec City on March 18, 1985;**
- **that the government of Canada continue to press U.S. authorities to find a permanent solution to the troubling situation where Canadian firms were barred and may in future be barred again from installing or servicing the equipment they sell in the United States;**
- **that the government of Canada request that the U.S. administration better publicize the DD/DPSA among procurement officers of the U.S. Department of Defense;** and
- **that the government of Canada spare no effort to impress upon the various branches of the U.S. government that the vast majority of Canadian manufacturers are smaller than most of those U.S. firms that the U.S. *Small Business Act* is intended to protect.**

D. Military Cooperation on Land

Members are aware of a number of plans and joint exercises for land operations in the Arctic. They are impressed by the formidable difficulties a potential enemy would encounter in attempting to mount and sustain a significant land operation in or through Canada's northern territories. The Committee believes that the probability of such an attack ever being staged is remote. Most Members are equally impressed, however, with the daunting challenge that would face the very limited Canadian forces given responsibility to plan, provide for, and prosecute effective defensive operations against even diversionary enemy operations in the North, such as small lodgments. **The Committee recommends:**

- **that the government take steps to ensure greater availability of Canadian personnel and equipment for land operations in defence of Canada's North, and that it consider assigning responsibility for the performance of some of these missions to the Canadian Rangers and the Militia.**

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[3] Professor Danford Middlemiss, *Proceedings*, November 28, 1985, p. 50:8.

[4] *Ibid.*, p. 50:15.

[5] Quebec City Declaration by the Prime Minister of Canada and the President of the United States, March 18, 1985, p. 1, para. 5.

E. Military Cooperation at Sea

A majority of Members agrees that the air-breathing threat to North America has become more diverse as a result of the introduction of longer-range submarine-launched cruise missiles. Air attacks against targets on this continent are no longer largely confined to strikes from the north. They could also come from east and west.

Members are generally satisfied that bilateral and NATO arrangements for the defence of the Atlantic approaches to North America are adequate even though Canadian resources are scarce. They are not as encouraged, however, by the situations prevailing in the two other oceans bounding Canada. In the Pacific, cooperation may be satisfactory, but the Committee is alarmed by the lack of resources that would be available to carry out, in a crisis or wartime, the contingency plans worked out and exercised in peacetime. In the Arctic, the Committee fears that even cooperation leaves something to be desired. **The Committee recommends:**

- **that the government of Canada urgently plan for a major re-equipment of Canada's maritime forces in the Pacific and for the acquisition of the materiel necessary to remedy deficiencies in the Atlantic fleet which recent procurement programs will not alleviate. Canada's navy requires additional modern frigates, new submarines and marine helicopters, mine-countermeasure vessels, patrol vessels, and a larger fleet of patrol aircraft;**

- **that the government consider negotiating with the United States a joint arrangement for the defence of the Arctic Ocean committing both nations to maintain underwater and other systems for the detection of submarines; the United States would concentrate on the outer periphery and Canada on the waters of the Canadian Archipelago;** and

- **that Canada and the United States take steps better to integrate command, control, and communications systems with responsibilities for the aerospace and maritime defence of North America, so that real-time information about Soviet ballistic- and cruise-missile submarines in Canada's Atlantic and Pacific sub-regions as well as in the Arctic can flow directly to the Canadian Region Operations Control Centres at North Bay and to NORAD headquarters.**

F. Military Cooperation in Air and Space: NORAD

1. *NORAD Renewal*

As mentioned in Chapter V, there is relatively little opposition to the traditional NORAD functions of airspace surveillance, air defence and missile warning. There is even a consensus of sorts that the new agreement should be for about five years. But most witnesses in the disarmament movement and a fair number among academics make their consent to NORAD's renewal conditional on extremely stringent terms with respect to U.S. strategy, SDI, SDA 2000, command arrangements, the modernization of NORAD, the protection of Canadian sovereignty and, especially, the "ABM clause".

The Committee has given due consideration to the conditions suggested. By and large the majority finds them unacceptable: most seek to remedy problems which do not exist at present or are clearly unrelated to NORAD. Many would have us dictate to the United States in areas wholly within the scope of its national prerogatives.

With respect to the major reservations identified in Chapter V, the Committee has concluded as follows:

(a) *U.S. Strategy*

The majority of the Committee is unconvinced that U.S. strategy has changed to the extent that it no longer relies on offensive retaliation and MAD as the basis for deterrence. Members recognize that when considered in conjunction with planned procurements, certain U.S. announcements give ground for concern that such a change is actually contemplated in Washington. Yet most would point out: (1) that the procurements in question are required by the obsolescence of existing systems; (2) that these procurements have either not begun or not been completed; (3) that they may be significantly affected by the Geneva negotiations on strategic nuclear weapons, at least in the longer term; and (4) that the United States and NATO have parallel policies. The United States could not, therefore, radically modify its strategic doctrine without the concurrence of the allies unless it were prepared to risk a particularly divisive crisis in Alliance relations and perhaps the demise of NATO.

(b) *SDI*

New apprehensions tied to SDI have arisen recently with regard to Canadian sovereignty. The fear is that Canada will have to accommodate greatly increased air defences if effective ballistic missile defences are deployed and that Canada will be asked to deploy ground-based BMD systems on its territory because these weapons will only be effective if they can be placed closer to the Soviet Union than U.S. territory would allow. The Committee is of the opinion that Canada should monitor closely any developments in that area, but the majority considers the specific concerns expressed premature. No one can say with certainty what systems it may become possible to deploy, and it is by no means a foregone conclusion that Canadian territory would be required; Alaskan locations and sea-based platforms might do just as well, for example.

The majority of the Committee agrees with the government's position that SDI research is prudent. Some Members however, feel strongly that the government erred in deciding that "Canada's own policies and priorities do not warrant a government-to-government effort in support of SDI research". They agree with the witnesses who argued that North American defence is indivisible, that only ballistic missile defences can guarantee that nuclear weapons are rendered obsolete, and that Canada has handicapped its defence industries wishing to take part in SDI research by ruling out government-to-government participation. Other Members disagree and suggest that the government's decision should be extended to prevent participation of Canadian industrial firms and universities in SDI research.

The majority of the Committee was generally unconvinced by the links some witnesses sought to establish between SDI and NORAD. NORAD is the here and now; for the foreseeable future SDI will be nothing more than a research program. Moreover, although it does not seem likely, SDI may become negotiable at Geneva or elsewhere if President Reagan or his successor decides it stands in the way of a favourable resolution of strategic arms reduction talks. Finally, there are no reasons to suspect that the United States would proceed to unilateral deployment after giving commitments to its NATO allies on numerous occasions that it would first negotiate with the Soviet Union.[6]

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[6] See Appendix B.

(c) *SDA 2000*

The conceptual planning exercise known as SDA 2000, Phase II, has caused much concern, given the plain link it establishes between air and ballistic missile defence[7] — should the latter prove both feasible and non-negotiable. Most Members agree with witnesses who would sooner have Canadians involved in the conceptual stage of this planning than on the sidelines.

(d) *Command Arrangements*

Command arrangements are what the North American Aerospace Defence Command — i.e. NORAD — is all about. Its establishment in 1958 marked the culmination of joint planning for the air defence of North America. The majority of the Committee came away from visits of the central and Canadian headquarters of NORAD, numerous meetings with Canadian staff and line officers, and hearings across the country convinced that a combined command is in the interest of both countries.

Other, less integrative arrangements are conceivable and functioned quite satisfactorily until 1957. This option is always available to Canada, should it feel uncomfortable with directions taken in the United States. But most Members see nothing to be gained at present from the dismantlement of the NORAD Command. Indeed, the concern of some Members in the majority is not that the integration of Canadian and U.S. aerospace defence forces has progressed too far, but rather that some of NORAD's traditional functions may be turned over to the new Unified Space Command, which will support NORAD but not be one of its components. This could diminish the scope for Canadian involvement and would become especially serious if the United States decided to put different officers in charge of the USC and NORAD. Not only could questions arise as to who operates in support of whom — CINCNORAD or CINCSPACE — but Canadian officers might find their access to information about space reduced, especially when the Baker-Nunn camera in St. Margaret's, N.B. is phased out in 1988 and Canada ceases to perform any military space-related role.

The majority of the Committee sees nothing ominous in the establishment of the U.S. Unified Space Command. Its forerunner, the USAF Space Command, was planned and in existence before the Strategic Defence Initiative was ever mentioned.

(e) *Modernization of NORAD Systems in Canada's North*

A majority of the Committee is convinced that the planned upgrading of NORAD's peripheral air defence systems, especially in Canada's North, is entirely justifiable given the advanced stage of obsolescence of the existing system and actual or expected qualitative improvements in the capabilities of Soviet bombers and cruise missiles.

Members agree with the many witnesses who argued that there is little point in expanding NORAD's capability to negate air-breathing attacks by adding a larger number of interceptors. Most reject, however, contentions that existing plans aim to give NORAD more than what is strictly necessary to deny Soviet planners a "free ride". They find especially mistaken and unhelpful the suggestion that the real purpose of the planned modernization is to provide U.S. strategists with the option to carry out a first strike and to stop a Soviet retaliatory bomber strike. Even if one assumes that, within the lifespan of the

[7] *Proceedings*, December 6, 1985 p. 52:10.

NWS, means could be found to execute a first strike that could destroy *all* Soviet ICBMs, retaliation would certainly come from SLBMs — against which NORAD can do nothing.

Likewise, the requirement for Forward Operating Locations has been misinterpreted. Interceptors will be needed in the North to ensure positive identification of unknown aircraft before they reach points from which Soviet bombers could release long-range cruise missiles. Most Committee members fail to understand the concerns voiced by many disarmament group representatives. The limited size of Canada's air defence force is well known, and current plans call for nothing more than random deployments of CF-18s to the FOLs. U.S. F-15s, admittedly, will also train at the FOLs, but while there they will be under Canadian operational control; furthermore, it is not intended that they become a semi-permanent presence in the North. Concerning the F-15s, the majority of Members also wish to highlight official denials that they could operate from Canadian bases or FOLs in an ASAT mode. First, as General Herres and others pointed out, ASAT is simply not a NORAD role and, therefore, ASAT missions could not be performed from Canada's territory or airspace unless specifically authorized under a separate Canada-U.S. agreement. Second, to carry out ASAT operations the F-15s would require ground support which is not and will not be available at Canadian facilities, and which could not be deployed to those facilities on short notice.[8]

(f) *Sovereignty*

A majority of the Committee believes that NORAD enhances sovereignty. It allows us to control movements into and out of our national airspace at far less cost than if we had to provide peripheral radar systems of our own. NORAD has also been responsive to our sensitivity about sovereignty over the years. For example, NORAD region boundaries have been reconfigured to follow national borders, and control of all movement in Canadian airspace has been turned over to the ROCCs at North Bay. Unlike DEW Line sites, the new radar stations which will replace them will not be U.S. operations; they will be a Canadian responsibility. Even strictly U.S. systems, such as the OTH-Bs and the AWACS made available to NORAD by the USAF, are or will be partly manned by Canadians because they help gather data on events occurring in Canadian airspace.

It may also be worth remembering that NORAD has spared us the misunderstandings which might have arisen in our bilateral relations with the United States if Americans had been uncertain about the quality of our aerospace defences — and perhaps tempted to test them or to pressure us into investing far more in them.

(g) *Impact of Withdrawal*

Despite the equanimity of those who are prepared to see Canada withdraw from NORAD, the majority of the Committee is convinced that the impact of a refusal on our part to renew NORAD would be highly detrimental to Canada and Canada-U.S. relations. The effect would be felt across the board and would be especially nefarious in the short term: 1986 is a Congressional election year and, given that protectionist pressures are especially strong at present, the proponents of protectionism can be counted on to use whatever grist is available for their mills.

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[8] *Ibid.*, December 11, 1985, p. 54:36.

(h) *Recommendations regarding the NORAD Agreement*

For all these reasons, **the Committee recommends:**

- **that the government of Canada renew the NORAD Agreement for a period of five years with no substantial modifications in the thrust of the document**[9]; and

- **that the government of Canada accept the invitation of the United States to participate in the conceptual planning exercise known as "SDA 2000, Phase II".**

2. *The Special Case of the "ABM clause"*

The majority of the Committee wholeheartedly agrees with John Gellner, the editor of the *Canadian Defence Quarterly*, that "whether the ABM Treaty survives or not, the air defence of North America . . . must go on".[10] It agrees with the argument apparently endorsed by the government in 1981 that ballistic missile defence and NORAD are separate issues. But in the hope that it will help allay public concerns, **the Committee recommends:**

- **that the government consider inviting the United States to issue at the time of the renewal of the NORAD agreement a joint declaration reaffirming both countries' commitment to deterrence and strategic stability, as well as their support for the integrity of the ABM Treaty and a negotiation process leading to verifiable reductions of armaments.**

3. *NORAD Resources*

Most members support the plans for NORAD modernization approved at Quebec City on March 18, 1985. The radars around the periphery of North America and the communications links between the radar sites, command centres, and aircraft are being upgraded so that they can cope with an improved low-flying air-breathing threat, and air defence interceptor squadrons are being re-equipped with better aircraft. Members are not aware of any particular personnel shortfalls. Some, however, are uneasy about the lack of airborne warning and control assets. Not only are no USAF AWACS dedicated to NORAD, but Canada has none of its own. Once the Pinetree Line is dismantled, we will have no means of controlling uncooperative air traffic, intruders, or stray aircraft in most of our airspace north or south of the 700 km band of territory covered by the radars of the NWS.

This situation should not be over-dramatized. It is not a security concern, since the radar coverage around North America should make it extremely difficult for attacking bombers to go unnoticed. But the majority of the Committee is concerned about the lack of means available to Canada to ensure its sovereignty in its airspace north of the 70th parallel as well as between the NWS and the U.S. border. Members know that AWACS are extremely costly to purchase, maintain, and operate, but evidence suggests that cheaper aircraft and even airships could be used in an airborne surveillance role for sovereignty if not for all defence missions. **The Committee** therefore **recommends:**

- **that the government examine the various options available for the performance of airborne surveillance and control missions and consider acquiring a number of**

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[9] See Appendix C.

[10] *Proceedings*, November 20, 1985, p. 46:37.

platforms to carry out such missions in support of Canadian sovereignty, and in support of NORAD if required, over the Arctic Archipelago and between the peripheral radar lines and the U.S. border.

4. *Space Considerations*

Even disarmament groups and organizations such as the Committee for a Nuclear-Free North, Western Arctic New Democrats joined the majority of the witnesses in supporting some forms of Canadian defence space activities. The exact functions such a program would help perform were not always made clear, but a distinct consensus emerged about the need for space surveillance and communications. Other roles mentioned for Canadian satellites included search and rescue, navigation, meteorology, oceanography, and arms control verification. Some groups also called on Canada to revive the dormant proposal for an International Satellite Monitoring Agency initially made by France at the tenth special session of the U.N General Assembly, devoted to disarmament, in 1978.

The Committee readily endorses many of the arguments put forward in favour of a Canadian space program. There is no doubt in the minds of most Members that it would help keep Canada at the forefront of research in crucial areas of technology, such as artificial intelligence, robotics, remote sensing, and satellite design. It seems equally clear to the majority of the Committee that, without a vigorous military component in this space program, Canada stands to deal itself out of NORAD activities in which it has heretofore been involved. As Wesley Wark indicated, this might result in a further erosion of our influence in NORAD and a corresponding loss of access to information of significance to Canada.[11] Albert Legault of Laval University made a related point by emphasizing that technology is diminishing Canada's importance to the United States in all areas except identification and interception.[12] Admittedly, the United States has given no indication that it intends to freeze us out — but it has made no signs either that it would prevent us from doing so ourselves.

The majority of the Committee is aware of the potential of a military space program and of the possibilities which exist, in most areas of interest to Canada, to combine our military and civilian efforts. It is also cognizant of the Canadian commitment to finding solutions to the verification problems that have plagued arms control negotiations. Global security would increase if these problems could be resolved. For these and other reasons already noted, **the Committee recommends:**

- **that the government of Canada undertake to launch without delay a Canadian military space program, corresponding to clear Canadian defence priorities and requirements, for the purpose of improving: the surveillance of our internal airspace, our land mass, and the oceans bounding Canada; our search and rescue capabilities; our communications and navigation systems; and to complement the surveillance, warning and communications capabilities of NORAD;**

- **that this program be structured with the definite intent to provide support for the activities of civilian government departments;** and

[11] *Ibid.*, October 31, 1985, pp. 41:109 and 41:113.

[12] *Ibid.*, November 20, 1985, pp. 46:45-6.

- **that this military space program be coordinated with other Canadian space initiatives under the general supervision of a Canadian Space Agency.**

G. Other Conclusions and Recommendations

1. *The North*

The Committee was impressed by the concerns of northern officials over the lack of radar coverage "north of 70". Clearly, this problem should be remedied, for both security and sovereignty reasons. But in view of the time needed to prepare the necessary sites, and of the cost of building and equipping a significant number of new radar stations, the Committee is not prepared to recommend that ground-based radars should be installed to extend North Warning System coverage to the outer periphery of the Archipelago. In the short- to mid-term, the airborne early warning platforms called for in one of the foregoing recommendations could alleviate the problem. In the longer term, the Committee sees the Canadian military space program also recommended above as the only effective and viable solution to the problem.

Members are sympathetic to the environmental, social, and economic concerns of northerners. Although aware that the matters in question are complex and require careful examination, they are convinced that sensitivity and goodwill can go a long way towards providing solutions. It would probably never occur to even the most fair-minded southern Canadians that low-level jet training during the cariboo calving season is a problem. The Committee was told that it is a significant one for those who depend to a large extent on the cariboo for their livelihood. The Committee believes that many issues of this type would lend themselves to reasonable and rapid solutions with increased participation of northerners in the policy-making process. **The Committee recommends:**

- **that the government seek to involve northern communities more closely in the planning of defence activities in the North.**

Canada must also give itself better means of asserting and enforcing its sovereignty over the waters of the Arctic Archipelago. This capacity will become ever more crucial over the next 10 or 15 years and should be expanded as commercial development of Arctic resources progresses. Accordingly, the Committee also wishes to express its support for the government's decision to build a class-8 icebreaker.

2. *The Reserves*

Concerns about the reserves have been addressed in several of the foregoing recommendations. Members are sympathetic to their plight; therefore **the Committee strongly recommends** :

- **that the government review the recommendations contained in its 1981 report entitled *Action for the Reserves*[13] and consider acting upon the recommendations which have so far not been implemented.**

[13] See Appendix D.

3. *Parliament*

The Committee is gratified to have had this opportunity to make known to the government its views on the future of Canada-U.S. defence cooperation and NORAD. The majority understands but does not share the minority's concern that the Committee will not have an opportunity to examine the actual text of the agreement prior to its being signed; such a procedure would, as the Hon. Erik Nielsen indicated, institute a fundamental change in government decision making.[14] The Committee recognizes that it was given a great deal of information on a wide range of topics. It continues to be concerned, however, that it should receive all of the necessary information relevant to studies at hand. **The Committee recommends:**

- **that in future the government continue to seek parliamentary committee advice ahead of NORAD renewals, and that such studies be undertaken by Parliament fully a year before the expiry of the agreement.**

The Committee further **recommends:**

- **that the appropriate parliamentary committees be kept fully abreast of matters pertaining to national defence — subject to proper arrangements being worked out to respect the national security interests of Canada and its allies;** and

- **that the Department of National Defence immediately implement procedures to ensure that its active records are free of outdated information concerning Canada's agreements with other countries.**

[14] *Proceedings*, December 13, 1985, pp. 56:17-18.

Appendix A

The Canadian response to the U.S. invitation to participate in SDI research, September 7, 1985

A) Prime Minister's Statement

On March 26 the United States invited Canada and other friendly countries to participate directly in research under the Strategic Defence Initiative. After careful and detailed consideration the Government of Canada has concluded that Canada's own policies and priorities do not warrant a government-to-government effort in support of SDI research. Although Canada does not intend to participate on a government-to-government basis in the SDI research program, private companies and institutions interested in participating in the program will continue to be free to do so.

As stated in the House of Commons on January 21, 1985, by the Secretary of State for External Affairs, this Government believes that SDI research by the United States is both consistent with the ABM Treaty and prudent in light of significant advances in Soviet research and deployment of the world's only existing ballistic missile defence system.

I conveyed this decision to the President of the United States and informed him of this. I had discussed it, as you might imagine, with my caucus and my cabinet. And that is our position with regard to this particular item.

B) Letter from the Minister of National Defence to the U.S. Secretary of Defense

Dear Mr. Weinberger:

On March 26 you wrote to me extending to the Government of Canada and to other friendly governments an invitation to participate directly in research under the Strategic Defence Initiative (SDI).

My colleagues and I have given this issue careful and detailed consideration. A Parliamentary Committee has conducted extensive public consultations across the country. Upon reflection, the Government of Canada has concluded that Canada's own policies and priorities do not warrant a government-to-government effort in support of SDI research.

In conveying this decision to you, there are a number of additional points I would like to make. We believe that the extensive existing cooperation in defence research between our two countries is mutually beneficial and should be encouraged to grow. The Government is committed to further development of this cooperation and will continue to welcome further research arrangements with the United States, consistent always with Canada's national interest and its research and development priorities. Although Canada does not intend to

participate on a government-to-government basis in the SDI research program, private companies and institutions interested in participating in the program will continue to be free to do so.

As Canada has previously stated, our Government believes that SDI research by the United States is both consistent with the ABM Treaty and prudent in light of significant advances in Soviet research and deployment of the world's only existing ballistic missile defence system.

I look forward to continuing to work closely with you as we together address the vital security issues facing us.

Sincerely,

Erik Nielsen

Appendix B

Excerpts from two statements by the Secretary of State for External Affairs on matters relating to the ABM Treaty*

A) January 21, 1985 (*Hansard*, p. 1502)

As the program is presently understood, research on SDI does not in and of itself contravene the provisions of either the 1967 Outer Space Treaty or of the 1972 Anti-Ballistic Missile treaty, both of which Canada strongly supports. In light of significant Soviet advances in ballistic missile defence research in recent years and deployment of an actual ballistic missile defence system, it is only prudent that the West keep abreast of the feasibility of such projects.

However, actual development and deployment of space-based ballistic missile defence systems by either side would transgress the limits of the ABM Treaty as currently constituted. That could have serious implications for arms control and would therefore warrant close and careful attention by all concerned. We welcome in this regard President Reagan's affirmation that the U.S.A. would not proceed beyond research without discussion and negotiation.

B) January 23, 1986 (*Hansard*, p. 10101)

To deviate from a policy of full compliance is to threaten the credibility and hence the viability of arms control. Canada firmly supports the regime created by the ABM treaty and the existing SALT agreements on limiting strategic forces. Our stance toward SDI research is rooted in the need to conform strictly with the provisions of the ABM treaty. We will continue to urge the parties to these treaties to do nothing to undermine their integrity but, rather, to work to reinforce their status and their authority.

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* The Secretary of State for External Affairs also elaborated on Canada's position with regard to the ABM Treaty during his meeting with the Committee (see *Proceedings*, December 4, 1985, p. 51:16).

Appendix C

The 1981 NORAD Agreement

Exchange of Notes Between the Government of Canada and the Government of the United States of America Constituting an Agreement Concerning the Organization and Operation of the North American Aerospace Defence Command (NORAD), Ottawa, March 11, 1981

In force March 11, 1981 with effect from May 12, 1981

Ottawa, March 11, 1981

The Honourable Alexander Haig,
Secretary of State of the
United States of America

Sir,

I have the honour to refer to discussions that have taken place between representatives of our two Governments regarding future cooperation between Canada and the United States in the defence of North America. Our Governments remain convinced that such cooperation, conducted within the framework of the North Atlantic Treaty, remains vital to their mutual security, compatible with their national interests, and an important element of their contribution to the overall security of the NATO area.

As neighbours and allies within North America, our two Governments have accepted special responsibilities for the security of the Canada-United States region of NATO and, in fulfilling these responsibilities, have entered into a number of bilateral arrangements to facilitate joint defence activities. Among these, the arrangements for air defence, aerospace surveillance, and missile warning embodied in the North American Air Defence Command (NORAD) have provided the means of exercising effective operational control of the forces assigned by our two Governments to the aerospace defence of North America.

In the years since the NORAD Agreement was first concluded, there have been significant changes in the character of strategic weapons and in the nature of the threat they pose to North America. The most important of these changes has been the major increase in the number and sophistication of strategic missiles. There has also been an increasing use of space for strategic and tactical purposes. In addition, although missiles constitute the principal threat, long-range bombers continue to pose a threat to North America.

In view of the continuing mission of aerospace surveillance and warning and air defence, our two Governments agree that, to properly reflect aerospace surveillance and missile

warning related responsibilities, it is appropriate to redesignate NORAD as the North American Aerospace Defence Command.

In light of these developments, our two Governments retain a common interest in the maintenance of effective surveillance and control of North American airspace and in preventing its use for purposes detrimental to the security of North America. Since peacetime surveillance and control are expected to continue as functions important to the sovereign control of national airspace, each Government will maintain a system to carry out these activities in conjunction with the air defence and aerospace surveillance and warning operations of NORAD.

The large volume of air traffic flowing daily to, from, and within North American airspace, much of it across the border between our two countries, dictates that our national airspace surveillance and control systems be compatible with each other and requires a high degree of coordination between their military components. Our Governments agree that the necessary command, control and information exchange arrangements can most effectively and economically be provided by the continued operation of NORAD.

In addition to performing the airspace surveillance and control functions related to air defence, NORAD will monitor and report on space activities of strategic and tactical interest and will provide warning of aerospace events that may threaten North America. In view of the increasing importance of space to the defence of North America, our Governments will seek ways to enhance cooperation in accordance with mutually agreed arrangements in the surveillance of space and in the exchange of information on space events relevant to North American defence.

The primary objectives of NORAD will continue to be:

a. to assist each nation to safeguard the sovereignty of its airspace;

b. to contribute to the deterrence of attack on North America by providing capabilities for aerospace surveillance, warning and characterization of aerospace attack, and defence against air attack; and

c. should deterrence fail, to ensure an appropriate response against attack by providing for the effective use of the forces of the two countries available for air defence.

As in the case of all joint defence activities, the future activities envisaged for NORAD will require the closest cooperation between authorities of our two Governments. It is recognized that this can be achieved in a mutually satisfactory way only if full and meaningful consultation is carried out on a continuing basis. Our two Governments, therefore, undertake to insure that such consultation takes place.

On the basis of our common appreciation of the circumstances described and of the experience gained since the inception of NORAD, my Government proposes that the following principles should govern the future organization and operations of the North American Aerospace Defence Command.

a. The Commander in Chief, NORAD (CINCNORAD), and the Deputy in CINCNORAD's absence, will be responsible to the Chief of Defence Staff of Canada and the Joint Chiefs of Staff of the United States, who in turn, are responsible to their respective Governments. CINCNORAD will function in support

of the concepts of surveillance, warning, control, and defence approved by the authorites of our two Governments for the defence of the Canada-United States region of the NATO area.

b. NORAD will include such combat units and individuals as are specifically allocated to it by the two Governments. The jurisdiction of CINCNORAD over those units and individuals is limited to operational control as hereinafter defined.

c. "Operational control" is the power to direct, coordinate, and control the operational activities of forces assigned, attached, or otherwise made available. No permanent changes of station would be made without approval of the higher national authority concerned. Temporary reinforcement from one area to another, including the crossing of the international boundary, to meet operational requirements will be within the authority of commanders having operational control. The basic command organization for the defence forces of the two countries, including administration, discipline, internal organization, and unit training, shall be exercised by national commanders responsible to their national authorities.

d. The appointment of CINCNORAD and the Deputy must be approved by the Canadian and United States Governments. They will not be from the same country, and the CINCNORAD staff shall be an integrated staff composed of officers of both countries. During the absence of CINCNORAD, command will pass to the Deputy Commander.

e. The North Atlantic Treaty Organization will continue to be kept informed through the Canada-United States Regional Planning Group of arrangements for the aerospace defence of North America.

f. The plans and procedures to be followed by NORAD in wartime shall be formulated and approved by appropriate national authorities and shall be capable of rapid implementation in an emergency. Any plans or procedures recommended by NORAD that bear on the responsibilities of civilian departments or agencies of the two Governments shall be referred for decision by the appropriate military authorities to those agencies and departments and may be the subject of intergovernmental coordination through an appropriate medium such as the Permanent Joint Board on Defence, Canada-United States.

g. Terms of reference of CINCNORAD and the Deputy will be consistent with the foregoing principles. Changes in these terms of reference may be made by agreement between the Canadian Chief of Defence Staff and the U.S. Joint Chiefs of Staff, with approval of higher authority, as appropriate, provided that these changes are in consonance with the principles set out in this Note.

h. The financing of expenditures connected with the operation of the integrated headquarters of NORAD will be arranged by mutual agreement between appropriate agencies of the two Governments.

j. The Agreement between parties to the North Atlantic Treaty regarding the Status of their Forces signed in London on June 19, 1951, shall apply.

k. Public statements by CINCNORAD on matters of interest to Canada and the United States will in all cases be the subject of prior consultation and agreement between appropriate agencies of the two Governments.

If the Government of the United States of America concurs in the considerations and provisions set forth herein, I have the honour to propose that this Note, which is equally authentic in English and French, and your reply to that effect shall constitute an agreement between our two Governments, which will enter into force on the date of your reply, with effect from May 12, 1981. This agreement will supersede the agreement on the North American Air Defence Command concluded in Washington, D.C., on May 12, 1958; and subsequently renewed on March 30, 1968; May 10, 1973; May 12, 1975; and May 12, 1980.

The present agreement will remain in effect for a period of 5 years during which its terms may be reviewed at any time at the request of either party. It may be terminated by either Government, following 12 months' written notice to the other.

Accept, Sir, the assurances of my highest consideration.

Secretary of State for
External Affairs
Mark MacGuigan

Minister of National Defence
J. Gilles Lamontagne

Appendix D

Summary of Conclusions and Recommendations of *Action for the Reserves*, a Report of the Standing Committee on External Affairs and National Defence, December 1981

1. Increasing international tensions make it necessary for Canada to pay greater attention to strengthening its defences and improving the state of readiness of the armed forces.
2. Current commitments and future crises can only be met by having a realistic and harmonious balance of forces, including both regulars and reserves, together comprising a total force.
3. Canada's reserves are in serious need of strengthening. Although they constitute an integral and essential part of the total force, they are deficient in a number of vital respects.
4. A commitment to enhance the status, capability and role of the reserves should be publicly enunciated at the highest political level and supported by increased funding.
5. The most urgent requirement is to upgrade the military effectiveness of the reserves so that they could become a viable component of the total force.
6. The reserves must have relevant training, tasks for which they are adequately equipped and a new awareness of the importance of their role.
7. The subcommittee strongly supports the decision to assign operational military tasks to militia units and urges the Commander of Mobile Command to apply this policy as widely and as swiftly as possible.
8. The supplementary reserve should be re-organized so that it could become a major source of individual augmentation for the regulars.
9. The reserves should be increased to whatever size is necessary to respond, jointly with the regulars, to the mobilization plan requirements.
10. The reserves will need a greater challenge, greater capability and more clearly defined and positive roles in order to reduce turnover and achieve higher rates of retention.
11. A new directive will be required to conform with any commitments by the government to enhance the status, capability and role of the reserves.

12. It is crucial that more resources be devoted to providing equipment to the reserves to carry out their assigned duties.

13. Greater efforts must be made to ensure that those reservists who might be called upon directly to augment regular formations be thoroughly familiar with the equipment employed by their regular force counterparts.

14. Reserve units should have equipment appropriate for the tasks assigned to them.

15. A realistic mobilization plan is urgently needed clearly specifying the missions which the reserve would be called upon to perform.

16. The Standing Committee on External Affairs and National Defence should examine in a systematic way the 'role, capability and status' of the reserves in the course of its future annual review of defence estimates.

17. The Canadian armed forces should continue to have a single budget, but all funds intended for expenditure on reserve programs, and in particular all equipment expenditures, should be clearly identified as such; and, further, the Department of National Defence should be required to give Parliament advance notification of any cancellations or significant reductions of reserve equipment programs as well as of other major modifications of reserve expenditure programs.

18. The Chief of Reserve Forces should be of the rank of major general, called out to serve full time during the term of his appointment, be a fully participating member of the Program Control Board and be eligible for re-appointment.

19. The regular force officer responsible for the reserves in National Defence Headquarters should have the rank of brigadier general and have a voice on policy and finance affairs in order to ensure coordination between the regulars and the reserves.

20. Primary reservists should be offered some financial incentives. The subcommittee favours a tax exemption and it would also be desirable to relate pay to length of service.

21. Supplementary reservists should be paid a modest annual retainer to induce them to maintain a regular link with the defence authorities.

22. It would be impractical to impose a legal obligation on private employers to release reservists wishing to take part in individual or unit training exercises.

23. The federal government should grant to duly registered reservists in its employ an entitlement to leave for the purpose of training with the Canadian armed forces; direct crown corporations to do the same through an amended Crown Corporations Act; and urge provincial governments to grant a similar entitlement.

24. The Department of National Defence should assess the current attitudes of the post-secondary student population toward the reserves and, if receptive, expand the Reserve Entry Scheme Officers program to a level commensurate with the needs identified in the forthcoming mobilization plan.

25. To enhance the airlift capacity of the Canadian armed forces, an air transport component should be added to the air reserve and the necessary arrangements for acquiring the use of civilian aircraft should be worked out and specified in a mobilization plan.

Appendix E

Witnesses

The following individuals testified before the Committee:

September 17, 1985 — issue 28

The Honourable Tom Butters, M.L.A., Inuvik, Legislative Assembly of the Northwest Territories

Stefan Simek, First Vice-President, Yellowknife Chamber of Commerce

Len Jason, Past President, Yellowknife Chamber of Commerce

John Hill, Mayor, Town of Inuvik

Brigadier-General Clay Beattie (ret.) Advisor, Town of Inuvik

Tom Detlor, Planning Coordinator, Town of Inuvik

Rhoda Innuksuk, President, Inuit Tapirisat of Canada

Mark R. Gordon, Vice-President, Inuit Circumpolar Conference, Canada

Wayne McTaggart, Vice-President, Métis Association of the Northwest Territories

Alvin Yallie, Vice-President, DENE Nation

Lynda Sorensen, Executive Consultant, DENE Nation

September 17, 1985 — issue 29

The Honourable Richard Nerysoo, Government Leader, Government of the Northwest Territories

Andy Clark, Business Council, Government of the Northwest Territories

John Kinloch, Chairperson, Committee for a Nuclear-Free North, Western Arctic New Democrats

Patrick Moores, Member, Committee for a Nuclear-Free North, Western Arctic New Democrats

October 1, 1985 — issue 30

Alan Sullivan, Assistant Deputy Minister, Political and International Security Affairs Branch, Department of External Affairs

John Anderson, Assistant Deputy Minister (Policy), Department of National Defence

Dr. George Lindsey, Chief Operational Research and Analysis, Department of National Defence

Major-General Frank Norman, Associate Deputy Minister (Policy), Department of National Defence

Arthur Mathewson, Chief, Policy Planning, Department of National Defence

October 2, 1985 — issue 32

Thomas Chell, Director General, Defence Programs Bureau, Department of External Affairs

John Anderson, Assistant Deputy Minister (Policy), Department of National Defence

Colonel Doug Fraser, Director, Continental Policy, Department of National Defence

Arthur Mathewson, Chief, Policy and Planning, Department of National Defence

October 3, 1985 — issue 33

Admiral Nigel Brodeur, Deputy Chief of the Defence Staff, Department of National Defence

George Lindsey, Chief of Operational Research and Analysis, Department of National Defence

Brigadier-General Carl Bertrand, Director General, Military Plans and Operations, Department of National Defence

Major-General L. Ashley, Chief, Air Doctrine and Operations, Department of National Defence

Captain Bruce Martin, Finance Group, Department of National Defence

Major-General Lessard, Chief, Land Doctrine and Operations, Department of National Defence

Commodore Bob George, Director General, Maritime Doctrine and Operations, Department of National Defence

Arthur Mathewson, Chief of Policy Planning, Department of National Defence

October 3, 1985 — issue 34

Major-General George MacFarlane, Associate Assistant Deputy Minister (Materiel), Department of National Defence

Derek Schofield, Chief, Research and Development, Department of National Defence

Robert Gillespie, Acting Director General, Office of Industrial and Regional Benefits, Department of Regional Industrial Expansion

R.D. Weese, Director General, Programme Development and Evaluation, Department of Supply and Services

Roger Voyer, Acting Deputy Secretary, Industry, Trade and Technology Sector, Ministry of State for Science and Technology

Thomas Chell, Director General, Defence Programs Bureau, Department of External Affairs

October 8, 1985 — issue 35

Clive Kingston, Chairman of the Board, Aerospace Industries Association of Canada

Harry Halton, Honorary Director, Aerospace Industries Association of Canada

Des Newman, Director, Aerospace Industries Association of Canada

Alec Bishop, Vice President, Aerospace Industries Association of Canada

October 9, 1985 — issue 36

John Anderson, Assistant Deputy Minister (Policy), Department of National Defence

Derek Schofield, Chief, Research and Development, Department of National Defence

Colonel Bill Weston, Strategic Policy Analyst, Department of National Defence

George Lindsey, Chief, Operational Research and Analysis, Department of National Defence

Paul Barton, Deputy Director, Defence Relations Division, Department of External Affairs

October 10, 1985 — issue 37

Geoffrey Pearson, Director, Canadian Institute for International Peace and Security

John Holmes, Canadian Institute of International Affairs

Lawrence Hagen, Director of Research, Canadian Centre for Arms Control And Disarmament

October 10, 1985 — issue 38

C. R. Nixon, Former Deputy Minister of National Defence

October 15, 1985 — issue 39

Lawrence S. Hagen, Director of Research, Canadian Centre for Arms Control and Disarmament

Brigadier-General Claude LaFrance, (ret.) Air Force Advisory Group

October 24, 1985 — issue 40

Professor Douglas Ross, University of British Columbia, Institute of International Relations

David Cadman, President, United Nations Association of Canada, Vancouver Branch

Michael Walker, Director, Fraser Institute

Chris Corless, Students for Peace and Mutual Disarmament

Francis Furtado, Students for Peace and Mutual Disarmament

Bev Olds, Students for Peace and Mutual Disarmament

John MacDonald, Chairman of the Board, MacDonald, Dettwiler and Associates

Gary Marchant, Vice-President, End the Arms Race

Andrew Milne, Chairperson, NORAD Study Group, End the Arms Race

Captain R.L. Donaldson, R.C.N. (ret.)

Lieutenant-General David R. Adamson (ret.), former Deputy Commander-in-Chief NORAD

October 31, 1985 — issue 41

Professor W. Harriet Critchley, University of Calgary

Dr. Colin Park, Member, Edmontonians for a Non-Nuclear Future

Anne Williams, Chairperson, Lethbridge Nuclear Disarmament Coalition

Dale Komanchuk, Secretary-Treasurer, Students Against Nuclear Extinction, Lethbridge Nuclear Disarmament Coalition

Professor Trudy Govier, Peace and Conflict Studies Group, University of Calgary

Anton Colijn, Peace and Conflict Studies Group, University of Calgary

Professor Thomas Keating, University of Calgary

Erik Schmidt, President, General Systems Research Ltd.

Professor Wesley K. Wark, Department of History, University of Calgary

November 7, 1985 — issue 42

Alex Curran, President, SED Systems Inc.

Brigadier-General Desmond Paine (ret.)

Marcel de la Gorgendière

Reverend John Flynn, President, Project Ploughshares (Saskatoon)

Ellen Gould, Project Coordinator, Project Ploughshares (Saskatoon)

Donald McKinnon, Project Ploughshares (Saskatoon)

Professor Paul Buteux, Department of Political Studies, University of Manitoba

Derek Wilson, Disarmament Study Group of the United Nations Association, Winnipeg Branch

Menno Klassen, Chairperson, Disarmament Study Group of the United Nations Association, Winnipeg Branch

Ken DeLisle, President of the United Nations Association, Winnipeg Branch

Paul Eastwood, Staff Member, Project Peacemakers, Winnipeg Coordinating Committee for Disarmament

Martin Zeilig, Staff Member, Winnipeg Coordinating Committee for Disarmament

Valerie Klassen, Vice-Chairperson, Winnipeg Coordinating Committee for Disarmament

November 18, 1985 — issue 43

Clarke MacDonald, Chairman, Project Ploughshares

Ernie Regehr, Research Director, Project Ploughshares

Peter Chapman, Research Associate, Project Ploughshares

Simon Rosenblum, Political Liaison Officer, Project Ploughshares

Bishop Adolphe Proulx, Canadian Conference of Catholic Bishops

Michael McBane, Research Associate, Canadian Conference of Catholic Bishops

Guy Huard, Research Associate, Schiller Institute

November 19, 1985 — issue 44

John G.H. Halstead, Former Canadian Ambassador to NATO

Professor John C. Polanyi, Department of Chemistry and Physics, University of Toronto

November 19, 1985 — issue 45

Professor Rod B. Byers, Director, Research Programme in Strategic Studies,

York University

Professor David Cox, Research Director, Canadian Institute for International Peace and Security

Murray Smith, Senior Policy Analyst, C.D. Howe Institute

Professor Martin Shadwick, Research Associate, Programme in Strategic Studies, York University

November 20, 1985 — issue 46

Brigadier-General George Bell, (ret.) President, Canadian Institute of Strategic Studies

Professor Stephen Clarkson, University of Toronto

John Gellner, Editor, Canadian Defence Quarterly

Professor Albert Legault, Laval University

November 21, 1985 — issue 47

Professor Michel Fortmann, University of Montreal

Steve Shallhorn, Campaign Co-ordinator, Toronto Disarmament Network

Nic Pryochodko, Member of the Co-ordinating Committee, Toronto Disarmament Network

November 21, 1985 — issue 48

Bill Robinson, Operation Dismantle

Louis Lemire, Operation Dismantle

John H. Simons, Executive Vice-President, Canadian Marconi Company

Ed Sloane, *Conseil québécois de la paix*

November 22, 1985 — issue 49

Fergus Watt, Executive Director, World Federalists of Canada

Dr. Ed Ragan, Physicians for Social Responsibility

Dr. Gerd Schneider, Physicians for Social Responsibility

November 28, 1985 — issue 50

Professor Danford Middlemiss, Department of Political Science, Dalhousie University

Rear-Admiral R.W. Timbrell (ret.)

Rear-Admiral F.W. Crickard (ret.)

Donna E. Smyth, Voice of Women

Bernadette Maxwell, Voice of Women

Brian Cuthberston, Archivist, Province of Nova Scotia

David Hope-Simpson, DFC, Veterans for Multilateral Nuclear Disarmement

Ray Creery, Veterans for Multilateral Nuclear Disarmament

Hugh Taylor, Veterans for Multilateral Nuclear Disarmament

Arch Conner, Director of Marketing, IMP Group Ltd.

Professor Michael Tucker, Department of Political Science, Mount Allison University

December 4, 1985 — issue 51

James H. Taylor, Under-Secretary of State for External Affairs

David A. Karsgaard, Director, Defence Relations Division, External Affairs

Paul E. Barton, Deputy Director, North American/Bilateral Section, Defence Relations Division.

December 6, 1985 — issue 52

John Anderson, Assistant Deputy Minister, Policy, Department of National Defence

Major General Larry Ashley, Chief, Air Doctrine and Operations, Department of National Defence

December 10, 1985 — issue 53

Larry D. Clarke, Chairman and Chief Executive Officer, SPAR Aerospace Limited

John D. MacNaughton, Senior Vice-President, SPAR Aerospace Limited

December 11, 1985 — issue 54

General G.C.E. Thériault, Chief of the Defence Staff, Department of National Defence

General Robert T. Herres, U.S.A.F., Commander-in-Chief, NORAD

December 12, 1985 — issue 55

David Low, Chairman, Interdepartmental Committee on Space, Ministry of State for Science and Technology

Mac Evans, Director General, Space Program Sector, Ministry of State for Science and Technology

Fraser Mustard, President, Canadian Institute for Advanced Research

James Ham, Chairman of the Space Station Committee, Canadian Institute for Advanced Research

Ruth MacDonald, Director of Development, Canadian Institute for Advanced Research

December 13, 1985 — issue 56

General G.C.E. Thériault, Chief of the Defence Staff, Department of National Defence

Bev Dewar, Deputy Minister, Department of National Defence

Appendix F

Briefings

The Committee received the following briefings:

August 1, 1985 — North Bay

Commander, Fighter Group, CFB North Bay and senior officers

August 26, 1985 — Ottawa

Senior officials of the Departments of National Defence and External Affairs

August 28 and 29, 1985 — Colorado Springs

Commander-in-Chief NORAD, Deputy Commander-in-Chief NORAD and senior officers of NORAD

September 17, 1985 — Yellowknife

Commander, Northern Region and senior officers

September 18, 1985 — Cambridge Bay

Station Commander, DEW Station CAM-Main

October 8, 1985 — Ottawa

Commander, Mobile Command and senior officers

October 25, 1985 — Victoria

Commander, MARPAC, CFB Esquimalt and senior officers

November 1, 1985 — Cold Lake

Base Commander, CFB Cold Lake and senior officers

November 8, 1985 — Winnipeg

Commander, Air Command and senior officers

November 27, 1985 — Bagotville

Base Commander, CFB Bagotville and senior officers

November 29, 1985 — Halifax

Commander, MARCOM, and senior officers

December 2, 1985 — Washington

Senior officials of the Department of Defense
Senior officials of the Department of State

Appendix G

Submissions

The following groups and individuals submitted written material (briefs, reports, statements) to the Committee:

Academics for Nuclear Disarmament, Memorial University of Newfoundland
Adamson, David R. (Downsview, Ontario)
Aerospace Industries Association of Canada
Air Force Officers Advisory Group
Arms Race and Nuclear Weapons Research Project, Institute for Policy Studies
Buteux, Paul (Winnipeg, Manitoba)
Butters, Tom (Inuvik, N.W.T.)
Byers, R.B. (Toronto, Ontario)
C.D. Howe Institute
Campbell River, Courtenay and District Labour Council
Campbell River Peace Group
Canadian Centre for Arms Control and Disarmament
Canadian Conference of Catholic Bishops
Canadian Federation of University Women
Canadian Institute for Advanced Research
Canadian Institute of International Affairs
Canadian Institute for International Peace and Security
Canadian Institute of Strategic Studies
Canadian Marconi Company
Cannizzo, C.A. (Calgary, Alberta)
Clarkson, Stephen (Toronto, Ontario)
Committee for a Nuclear-Free North, Western Arctic New Democrats
Conseil Québécois de la Paix
Crickard, Rear-Admiral F.W. (ret.) (Halifax, N.S.)
Critchley, Harriet (Calgary, Alberta)
Critical Path Software
Cuthbertson, Brian (Halifax, N.S.)

DENE Nation
Disarmament Study Group, United Nations Association, Winnipeg Branch
Donaldson, Captain R.L., R.C.N. (ret.)
Ecology North
Edmontonians for a Non-Nuclear Future
End the Arms Race (Vancouver, B.C.)
Fortmann, Michel (Montreal, Quebec)
Gellner, John (Toronto, Ontario)
General Systems Research Limited
Gertler, Ann (Westmount, Quebec)
Halstead, John G.H. (Ottawa, Ontario)
Herres, General Robert T., U.S.A.F.
Hill, John (Inuvik, N.W.T.)
IMP Group Limited
Inuit Tapirisat of Canada
Keating, Thomas (Edmonton, Alberta)
Klawer, H. (Duncan, B.C.)
Labrador Inuit Association
Legault, Albert (Laval, Quebec)
Lethbridge Nuclear Disarmament Coalition
Macallister, Gordon (Vancouver, B.C.)
MacDonald, Dettwiler and Associates
Manitoba Peace Council
Métis Association of the Northwest Territories
Middlemiss, Dan W. (Halifax, N.S.)
Ministry of State for Science and Technology
Nerysoo, Honourable Richard W. (Inuvik, N.W.T.)
Nixon, C.R. (Ottawa, Ontario)
Operation Dismantle
Paine, Brigadier-General Desmond (ret.) (Winnipeg, Manitoba)
Peace and Conflict Studies Group, University of Calgary
Physicians for Social Responsibility, Canada
Poirier, C. (Vancouver, B.C.)
Polanyi, John C. (Toronto, Ontario)
Project Ploughshares and The Canadian Council of Churches (Montreal)
Project Ploughshares (Montreal)
Project Ploughshares (Saskatoon)
Ross, Douglas (B.C.)

Sanders, C. Leroy and Sylvia (Gloucester, Ontario)
Schiller Institute
Scottie, William (Baker Lake, N.W.T.)
SED Systems Ltd.
Shadwick, Martin W. (Toronto, Ontario)
Spar Aerospace Limited
Stokes, Stanley C.W. (Vancouver, B.C.)
Students for Peace and Mutual Disarmament (B.C.)
The Fraser Institute
Timbrell, Rear-Admiral R.W. (ret.)
Toronto Disarmament Network
Tucker, M.J. (Halifax, N.S.)
Veterans for Multilateral Nuclear Disarmament
Voice of Women
Wark, Wesley K. (Calgary, Alberta)
World Federalists of Canada
Yellowknife Chamber of Commerce

A copy of the relevant Minutes of Proceedings and Evidence of the Standing Committee on External Affairs and National Defence (*Issues 26 to 56 inclusive, and 57 which includes this report*) are tabled.

Respectfully submitted,

William Winegard, M.P.
Chairman

[*Text*]

MINUTES OF PROCEEDINGS

MONDAY, DECEMBER 16, 1985
(65)

The Standing Committee on External Affairs and National Defence met in camera at 4:10 o'clock p.m., this day, the Chairman, William C. Winegard, presiding.

Members of the Committee present: Len Hopkins, Pauline Jewett, Alex Kindy, Rob Nicholson, Don Ravis, Robert L. Wenman, and William C. Winegard.

Alternate present: David Daubney.

In attendance: From the Parliamentary Centre for Foreign Affairs and Foreign Trade: Daniel Bon, Joel Sokolsky and Gregory Wirick, Research Advisors.

The Committee resumed consideration of its Order of Reference dated Friday, June 14, 1985, relating to the North American Aerospace Defence Agreement (*see Minutes of Proceedings and Evidence of Thursday, June 20, 1985, Issue No. 26*).

The Committee began consideration of guidelines for a draft report.

It was agreed — That the Committee meet again on Thursday, January 16 and Friday, January 17, 1986 to begin consideration of the first draft of a final report.

At 6:17 o'clock p.m., the Committee adjourned to the call of the Chair.

THURSDAY, JANUARY 16, 1986
(66)

The Standing Committee on External Affairs and National Defence met *in camera* at 9:11 o'clock a.m., this day, the Chairman, William C. Winegard, presiding.

Members of the Committee present: Derek Blackburn, Benno Friesen, Richard Grisé, Len Hopkins, Alex Kindy, Allan McKinnon, Rob Nicholson, Don Ravis, Robert L. Wenman, and William C. Winegard.

Alternate present: Robert A. Corbett, Robert Hicks, John Reimer, and Bill Rompkey.

In attendance: From the Parliamentary Centre for Foreign Affairs and Foreign Trade: Daniel Bon, Joel Sokolsky and Gregory Wirick, Research Advisors.

The Committee resumed consideration of its Order of Reference dated Friday, June 14, 1985, relating to the North American Aerospace Defence Agreement (*see Minutes of Proceedings and Evidence of Thursday, June 20, 1985, Issue No. 26*).

The Committee began consideration of a draft report.

At 11:16 o'clock a.m., the Committee adjourned to the call of the Chair.

FRIDAY, JANUARY 17, 1986
(67)

The Standing Committee on External Affairs and National Defence met *in camera* at 9:10 o'clock a.m., this day, the Chairman, William C. Winegard, presiding.

Members of the Committee present: Derek Blackburn, Benno Friesen, Richard Grisé, Len Hopkins, Pauline Jewett, Alex Kindy, Allan McKinnon, Rob Nicholson, John Oostrom, Don Ravis, Robert L. Wenman, and William C. Winegard.

Alternates present: David Daubney, Robert Hicks, Fred King, and John Reimer.

In attendance: From the Parliamentary Centre for Foreign Affairs and Foreign Trade: Daniel Bon, Joel Sokolsky and Gregory Wirick, Research Advisors.

The Committee resumed consideration of its Order of Reference dated Friday, June 14, 1985, relating to the North American Aerospace Defence Agreement (*see Minutes of Proceedings and Evidence of Thursday, June 20, 1985, Issue No. 26*).

The Committee resumed consideration of a draft report.

At 11:00 o'clock a.m., the Committee adjourned to the call of the Chair.

TUESDAY, JANUARY 21, 1986
(68)

The Standing Committee on External Affairs and National Defence met *in camera* at 3:36 o'clock p.m., this day, the Chairman, William C. Winegard, presiding.

Members of the Committee present: Derek Blackburn, Richard Grisé, Len Hopkins, Pauline Jewett, Alex Kindy, Allan McKinnon, John Oostrom, Don Ravis, Robert L. Wenman, and William C. Winegard.

Alternates present: David Daubney, Robert Hicks, John Reimer and Bill Rompkey.

In attendance: From the Parliamentary Centre for Foreign Affairs and Foreign Trade: Daniel Bon and Gregory Wirick, Research Advisors.

The Committee resumed consideration of its Order of Reference dated Friday, June 14, 1985, relating to the North American Aerospace Defence Agreement (*see Minutes of Proceedings and Evidence of Thursday, June 20, 1985, Issue No. 26*).

The Committee resumed consideration of a draft report.

At 4:52 o'clock p.m., the sitting was suspended.

At 5:24 o'clock p.m., the sitting resumed.

At 6:20 o'clock p.m., the Committee adjourned to the call of the Chair.

WEDNESDAY, JANUARY 22, 1986
(69)

The Standing Committee on External Affairs and National Defence met *in camera* at 3:45 o'clock p.m., this day, the Chairman, William C. Winegard, presiding.

Members of the Committee present: Derek Blackburn, Richard Grisé, Len Hopkins, Pauline Jewett, Alex Kindy, Allan McKinnon, Rob Nicholson, John Oostrom, Robert L. Wenman, and William C. Winegard.

Alternates present: Robert A. Corbett, David Daubney, Robert Hicks, John Reimer and Bill Rompkey.

In attendance: From the Parliamentary Centre for Foreign Affairs and Foreign Trade: Daniel Bon and Gregory Wirick, Research Advisors.

The Committee resumed consideration of its Order of Reference dated Friday, June 14, 1985, relating to the North American Aerospace Defence Agreement (*see Minutes of Proceedings and Evidence of Thursday, June 20, 1985, Issue No. 26*).

The Committee resumed consideration of a draft report.

At 6:12 o'clock p.m., the Committee adjourned to the call of the Chair.

TUESDAY, JANUARY 28, 1986
(70)

The Standing Committee on External Affairs and National Defence met *in camera* at 4:10 o'clock p.m., this day, the Chairman, William C. Winegard, presiding.

Members of the Committee present: Derek Blackburn, David Daubney, Benno Friesen, Richard Grisé, Len Hopkins, Pauline Jewett, Alex Kindy, Allan McKinnon, John Oostrom, Don Ravis, John Reimer, Robert L. Wenman, and William C. Winegard.

Alternates present: Robert Hicks, Fred King and Bill Rompkey.

Other Member present: Ricardo Lopez

In attendance: From the Parliamentary Centre for Foreign Affairs and Foreign Trade: Daniel Bon and Gregory Wirick, Research Advisors.

The Committee resumed consideration of its Order of Reference dated Friday, June 14, 1985, relating to the North American Aerospace Defence Agreement (*see Minutes of Proceedings and Evidence of Thursday, June 20, 1985, Issue No. 26*).

The Committee resumed consideration of a draft report.

On motion of Bob Hicks, seconded by Don Ravis, it was agreed - That Richard Grisé be elected Vice-Chairman of this Committee.

At 6:25 o'clock p.m., the Committee adjourned to the call of the Chair.

WEDNESDAY, JANUARY 29, 1986
(71)

The Standing Committee on External Affairs and National Defence met *in camera* at 3:40 o'clock p.m., this day, the Chairman, William C. Winegard, presiding.

Members of the Committee present: Derek Blackburn, Benno Friesen, Richard Grisé, Len Hopkins, Pauline Jewett, Alex Kindy, Allan McKinnon, John Oostrom, John Reimer, Robert L. Wenman, and William C. Winegard.

Alternates present: Jean-Guy Guilbault, Robert Hicks and Bill Rompkey.

Other Member present: Ricardo Lopez

In attendance: From the Parliamentary Centre for Foreign Affairs and Foreign Trade: Daniel Bon, Joel Sokolsky and Gregory Wirick, Research Advisors.

The Committee resumed consideration of its Order of Reference dated Friday, June 14, 1985, relating to the North American Aerospace Defence Agreement (*see Minutes of Proceedings and Evidence of Thursday, June 20, 1985, Issue No. 26*).

The Committee resumed consideration of a draft report.

Alex Kindy moved, — That the report be printed without minority statements.

After debate, the question being put on the motion, it was, by a show of hands, agreed to: YEAS: 7 : NAYS: 4.

Robert Hicks moved, — That the draft report be adopted as the Fourth Report and that the Chairman be ordered to table it in the House of Commons when printed copies are available.

After debate, the question being put on the motion, it was, by a show of hands, agreed to: YEAS: 8 : NAYS: 0.

On motion of Robert Hicks, it was agreed, — That the report be printed in Issue No. 57 in tumble format with a Mayfair cover in black and white, that the Committee print 10,000 additional copies of Issue No. 57 containing the report, and that the Chairman be authorized to make such typographical and editorial changes which may be necessary without changing the substance of the draft report to the House.

At 6:02 o'clock p.m., the Committee adjourned to the call of the Chair.

William C. Corbett,
Clerk of the Committee.