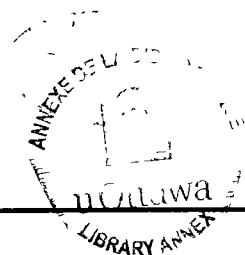


THE EFFECT ON CANADA  
OF NORAD  
THE NORTH AMERICAN AIR DEFENCE COMMAND  
by George Bissland Moore

Thesis presented to the Faculty of  
Social Sciences of the University  
of Ottawa as partial fulfillment  
of the requirements for the degree  
of Doctor of Philosophy

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Lawrenceville, New Jersey, 1967



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CURRICULUM STUDIORUM

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## INTRODUCTION

The purpose of this dissertation is to set forth the effect which NORAD, the North American Air Defence Command, has had on Canada. There has been little original writing on this subject. Therefore, this work comprises the fundamental pulling together for the first time of the whole range of aspects affected by the NORAD agreement and by the international organization of the same name. Thus the scope of this work is broader than that of many theses.

The overall effect on Canada has been many-faceted both short and long range, reaching into aspects of Canadian life which go far beyond the obvious impact on the Armed Forces. The Canadian governmental, national and international politics were affected to an unforeseen order of magnitude, even to the extent that a critical national election seemed to turn on the NORAD-NATO-Nuclear Weapon point of issue. In addition, the Canadian economy was affected on the whole by the influx of money and personnel, and limited areas felt the effects for better and for worse of new activities and paychecks, even more strongly. Finally, since much of the NORAD activity was in the North Country, the Cree Indians, the Eskimos, and the rate of development of the North were affected.

## CHAPTER I

BACKGROUND AND ANTECEDENTS  
OF NORAD

Canada and the United States are fond of pointing to their common border of some 5,500 miles of land and water, including Alaska, and noting that it has been undefended for over a century<sup>1</sup>. President Kennedy remarked on this point when he spoke in the House of Commons on 17 May 1961:

The Prime Minister was the first of the leaders from other lands who was invited to call upon me shortly after I entered the White House; and this is my first trip as President outside my country's border. It is just and fitting that I should come to Canada - - across a border that knows no guns and no guerrillas<sup>2</sup>.

However, it was not always so. The history of the defense relations between Canada and the United States is a story of progressing from "hostility to a military alliance<sup>3</sup>". For over 400 years the French Canadians have lived to the north of their "Southern Neighbors", and for some 200 years dating from perhaps 1672 when Governor Frontenac took office

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1 "Canada, Free World Partner", Background, U. S. Department of State, April 1960, p. 1.

2 John F. Kennedy, mimeographed copy of address in the House of Commons, 17 May 1961, p. 1.

3 General Charles Foulkes, "Canadian-United States Cooperation in Defence", mimeographed copy of an address to the Canadian-United States Business Conference in Ottawa, 18 February 1959, p. 1.

## BACKGROUND AND ANTECEDENTS OF NORAD

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and determined on his chain of forts along the river valleys of the St. Lawrence, the Ohio and the Mississippi, there was friction and intermittent warfare between "North" and "South"<sup>4</sup>. With the Treaty of Washington in 1871, however, the strain relaxed; although it is interesting to note that between World War I and World War II, "the only Canadian defence plans in existence were for defence against the United States"<sup>5</sup>.

As late as 1937, relations either formal or informal, between the Chiefs of Staff of the two countries were non-existent. With the following year, however, the relationship grew closer. In 1938 President Roosevelt made the first formal commitment of the United States to aid in the defence of Canada when, as he was receiving an honorary degree at Queen's University in Kingston, Ontario, he declared:

Canada is part of the sisterhood of the British Empire. I give to you the assurance that the people of the United States will not stand idly by if domination of Canadian soil is threatened by any other empire<sup>6</sup>.

Two days later at Woodbridge, Ontario, Prime Minister King announced the complimentary obligation on the part of

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4 Charles W. Colby, "Canada Under French Rule (1632-1755)", in the Encyclopedia Americana, Vol. 5, New York, 1950, p. 317-322.

5 Foulkes, Op. Cit., p. 1.

6 "The North American Air Defence Command", pamphlet from the Office of Information, Headquarters, NORAD, October 1961, p. 10.

## BACKGROUND AND ANTECEDENTS OF NORAD

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Canada when he announced that Canada would see to it that:

Should the occasion ever arise, enemy forces should not be able to pursue their way either by land, sea, or air to the United States across Canadian Territory<sup>7</sup>.

As international tensions rose thereafter, Prime Minister Mackenzie King sent his Chief of the General Staff and his Chief of the Naval Staff secretly to Washington in civilian clothes. With the fall of France in 1940 raids on the Atlantic coasts were thought possible, and cooperation increased.

Not long thereafter on 16 August 1940 President Roosevelt asked the Prime Minister to attend church with him the following day at Ogdensburg, New York. After church there were discussions in the President's railway car, and on 18 August a press release was given out by both men which has become known as the "Ogdensburg Declaration" or the "Ogdensburg Agreement". It is interesting that this was not a treaty or even an exchange of notes. No paper was signed. It was merely an agreed press release. However, this important arrangement was the beginning of "intimate military relations between Canada and the United States<sup>8</sup>". It was agreed that the two countries would set up a Joint

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7 Ibid.

8 Ibid., p. 3.

## BACKGROUND AND ANTECEDENTS OF NORAD

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Board on Defence which would study sea, air and land problems and "consider in a broad sense the defence of the northern half of the western hemisphere<sup>9</sup>". General Foulkes went on to point out that this Permanent Joint Board on Defence, now familiarly referred to as the PJBD, was an "experiment in international organization, and innovation" for both countries. Now twenty-five years later "it is the established and important element in Canadian-United States relations and in the defence organization of the West<sup>10</sup>".

During the same period, the same two governmental leaders concluded the "Hyde Park Agreement" on economic cooperation during war so that each country should provide the other with those defence articles which it could produce quickly and best. The production programs were coordinated to this end. This latter agreement was continued in May 1945 to cover the conversion from war to peace.

One result of these coordinating agreements was the creation of the Special Service Force of Canadian and United States soldiers which fought under both Canadian and United States commanders with great distinction in the Italian campaign, proving that the troops could operate in outstanding fashion under each other's command. In later years this

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9 Ibid.

10 Ibid., p. 4.

## BACKGROUND AND ANTECEDENTS OF NORAD

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same command aspect which worked so well in time of stress and in combat was to have serious repercussion in NORAD in times of comparative peace.

In November 1945, the United States Secretary of War and the Secretary of the Navy asked that the wartime cooperation continue on in peacetime. Agreement was reached, and joint defense planning has thus been continuously in effect since 1940.

In March 1948, at President Truman's invitation, Canadian and United Kingdom officials met with him in Washington to try to find means to stiffen resistance in Western Europe, and particularly in Italy, against Communist aggression. In these meetings, the early drafts of the present North Atlantic Treaty were drawn up. After the North Atlantic Treaty Organization formally came into being in April 1949, it was agreed that the Canada-United States part of the NATO area would become the responsibility of the Canada-United States Regional Planning Group which is still operating today.

All of this appears to be a logical outgrowth of the international pressures of the time, but why did NORAD develop in the way it did? The answer follows.

For a time the previous arrangements seemed adequate. Then came the first two Soviet atomic bomb explosions in October 1949. Not many months later, with the onset

## BACKGROUND AND ANTECEDENTS OF NORAD

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of the Korean War, an air attack on North America was considered a possibility. A closer look was taken at the poor radar coverage over the approaches to the industrial complexes and the capitals of Canada and the United States, and by 1951 it was recognized that the air defence of Canada and the United States had to be considered a single problem<sup>11</sup>. Joint arrangements were made for erecting radar stations down the coast of Labrador, and then across Newfoundland, Quebec and Ontario.

This was the first of a series of joint defence projects involving both government and commercial contracts, financing and personnel on the project sites. This first radar network became known as the Pinetree System. Thus before there was a North American Air Defence Command, the Air Forces of the two countries planned, built and worked together to form a coordinated air defence team consisting of the Air Defence Command in Canada and the Continental Air Defense Command in the United States<sup>12</sup>.

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11 J. G. Diefenbaker, Prime Minister, Hansard, June 10, 1958, p. 993.

12 Ernie Hemphill, "NORAD Hits Stride, Now Packs Enough Defence 'To Win a War'", Canadian Aviation, Vol. 32, Number 2, February 1959, p. 24-27.

BACKGROUND AND ANTECEDENTS OF NORAD

It should be noted at this point that the term "NORAD" as used in this dissertation means both the joint command arrangement of an integrated headquarters exercising operational control, and also the whole organization including the weapons, facilities, radar lines, squadrons of aircraft and missiles, and the tens of thousands of operating personnel.

## CHAPTER II

## ORIGINS AND DESCRIPTION OF NORAD

## 1. The Origins.

The origins of NORAD, the North American Air Defence Command, go back to early World War II during the period that the Canada-United States Permanent Joint Board on Defence was established. The Board was set up in order to have direct communication between the two countries on matters of mutual concern in the field of defence. It is still in operation today with both a Canadian and a United States chairman. Each reports directly and personally to the head of his government. With a bi-lateral progenitor of this type, it is not surprising that NORAD has such a dual personality<sup>1</sup>.

As explained by Prime Minister John Diefenbaker, speaking in the House of Commons on 13 November 1957<sup>2</sup>, the machinery of cooperation in defence had its origin in the Ogdensburg Declaration of August 1940 (See Appendix 1). He pointed out that arrangements arising out of this declaration were effective not only in the military, but in the political and the supply fields during the last war.

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1 Air Vice Marshall Murray Lister, Roundel, Vol. 14, published by the Royal Canadian Air Force, Ottawa, June 1962, p. 2.

2 John Diefenbaker, Prime Minister, Hansard, 13 November 1957, p. 1059.

## ORIGINS AND DESCRIPTION OF NORAD

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He went on to say that in November 1945 the United States government asked if the defence collaboration which had been so effective during the war could not be continued by having the two countries agree to carry on the Permanent Joint Board on Defense. He added that the only restrictions which existed at the time he was speaking were not by the desires of the countries, but were those imposed by law in the field of thermonuclear weapons. Even there they were chiefly concerned with construction and manufacturing of the weapons. In a foreshadowing of the great argument to come some five years later on nuclear weapons in Canada, he added that all members should realize that the manufacture of nuclear weapons was not an urgent defence requirement for Canada.

After World War II, in 1949, the air defence organizations of the two countries prepared a series of detailed emergency defence plans, which provided for mutual support and close cooperation in the event of an attack on the continent of North America. As time went on and the danger increased, the planners met more frequently and by 1954 it had become clear that the United States and Canada would stand or fall together in the event of an attack, since neither country could defend itself alone from within its own boundaries. It was considered that there would have

## ORIGINS AND DESCRIPTION OF NORAD

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to be a single defence system with one commander who could make recommendations to both countries. This would be particularly pertinent later when technology advanced and systems improved<sup>3</sup>.

During June 1955, Canada and the United States agreed that each government would make available to the other any atomic information considered to be necessary for the development of defence plans, for training personnel in defence against atomic weapons, and in evaluating the ability of potential enemies in employing atomic weapons.

Following on from this agreement, in December 1956, Prime Minister Diefenbaker said that a recommendation had been made to the Chiefs of Staff of both countries that there should be set up a joint headquarters "to provide for the operational control of the air defence of Canada and the United States<sup>4</sup>".

On 1 August of 1957, the Canadian Minister of National Defence and the United States Secretary of Defense announced an agreement to establish operational control for the air defences in Canada, the Continental United States, and Alaska under an integrated command responsible to the

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3 Lister, Op. Cit., p. 3-4.

4 Diefenbaker, Op. Cit., p. 1060.

## ORIGINS AND DESCRIPTION OF NORAD

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Chiefs of Staff of both countries<sup>5</sup>. This bilateral regional arrangement extended the mutual security objectives of the North Atlantic Treaty Organization (NATO) to the air defenses of the Canada-United States Region. It was postulated that NORAD should be maintained for a period of ten years or such shorter period as agreed to by both countries.

On 22 October 1957 Mr. L. B. Pearson inquired whether "the system of integrated operational control of the air defence forces of Canada and the United States, through a joint command<sup>6</sup>", had been set up. The reply stated that Air Marshal Slemon was at headquarters at Colorado Springs and that the relevant order would be tabled in council. Actually, a number of key Royal Canadian Air Force officers had been at Colorado Springs since 1956.

As will be covered at greater length when discussing politics, the Opposition felt compelled at the beginning of NORAD and periodically throughout its existence to make strenuous efforts to bring to public attention what the government was doing insofar as this international agreement was concerned.

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<sup>5</sup> United States Treaties and Other International Agreements, Vol. 9, Washington, D. C., Department of State, 1958, p. 538.

<sup>6</sup> L. B. Pearson, Leader of the Opposition, Hansard, 22 October 1957, p. 242.

## ORIGINS AND DESCRIPTION OF NORAD

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On 13 November 1957 Prime Minister Diefenbaker stated in Parliament that the establishment of the North American Air Defence Command followed from a recommendation made to the Chiefs of Staff of both countries in December 1956 for the establishment of a joint headquarters which would have operational control of the air defence of Canada and the United States. He considered this arrangement a further step in moving toward agreed NATO objectives for the Canada-United States Regional Planning Group<sup>7</sup>.

Earlier, in July of the same year, negotiations had also commenced to set up collaboration in studying defences against intercontinental ballistic missiles (ICBM's). The atomic-weapon aspects of this work had strong repercussions later.

On May 12, 1958 the Canadian Ambassador in Washington, His Excellency Norman Robertson, signed a formal note to the Secretary of State of the United States proposing that his note and the reply should constitute an agreement between the two governments. Christian A. Herter signed the reply for the Secretary of State of the United States the same day, making the Organization and Operation of the North American Air Defence Command officially effective from that

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<sup>7</sup> Diefenbaker, Op. Cit., p. 1059.

## ORIGINS AND DESCRIPTION OF NORAD

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date<sup>8</sup>. On June 24th, 25th and 26th the same year, the Canadian Senate Committee on External Relations discussed and approved the NORAD Agreement.

## 2. Philosophy of NORAD

The philosophy on which NORAD was founded, in its simplest form, was based on the assumption that the West will not strike first against an aggressor and must, therefore, be prepared to have the enemy launch his attack first. The prevention of World War III thus became the task of convincing the potential enemy that NORAD could (1) warn North America in time to enable a partial counter-strike to be launched before the enemy attack hit home (2) weaken the enemy attack as it passed, and that (3) as a result, the enemy could not prevent North America from launching such a devastating retaliatory blow that thereafter the enemy could not win the war.

The prime requirement for NORAD was the elimination of the possibility of attack with complete surprise.

The philosophy of NORAD derived directly from the North Atlantic Treaty signed on 4 April 1949. Article 5 states inter alia that " ... an armed attack against one or more of them (the Allies) in Europe or North America shall

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8 See Appendix 2. for the text of the agreement.

be considered an attack against them all ...<sup>9</sup>". From this treaty, and based on the size and composition of the armed forces made available to the North Atlantic Treaty Organization (NATO) by the fourteen of the fifteen nations which have armed forces (Iceland has none.) there had developed the NATO strategy which was explained by the Supreme Allied Commander of Europe, General Lauris Norstad, as follows:

First of all, our NATO strategy is founded on certain basic assumptions. One such assumption is that the Soviets will not undertake a deliberate and direct armed attack in force if they are convinced that the risks they would incur by doing so are too great to be acceptable.

. . . . .

This brings me to the second assumption or premise. That is that the existence of an effective retaliatory force limits the danger of war -- and there continues to be very real danger -- to the result of a mistake or an error in judgment on the part of the forces of international Communism.

. . . . .

Therefore, we believe that any valid European strategy must have the following three objectives: First, should an incident start, whether it originates in a deliberate probing effort or flares up accidentally from some border dispute, we must have the means to force a pause, a break in the continuity of the action that has started. Second, in this pause, our posture must be such that we compel the Soviet to make a conscious decision as to whether or not they are going to start a war. Third, when making this decision, we must at all times confront them with the total cost of their action. This total cost then involves the

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9 See Appendix 3. for the complete text.

## ORIGINS AND DESCRIPTION OF NORAD

consideration not only of the Shield forces which may be in immediate opposition, but also, and most importantly, it includes consideration of the heavy retaliatory forces as well<sup>10</sup>.

In summary, then, NORAD can best be visualized as one of the regional defence areas of NATO. It covers the continent of North America and, important as it is to Canada and the United States themselves, it is of transcendent importance to the North Atlantic Treaty Organization as a whole, for NORAD protects the main strike force of the Alliance. This great deterrent is held leashed chiefly within the North American continent, and so long as NORAD prevents enemies from cancelling it out by surprise attack, all of NATO can carry on business as usual, secure in the knowledge that they are safe from attack.

It is important to realize that the NORAD Agreement, signed in 1958 to run for a period of ten years or less, does not contain specific commitments on manpower, weapons or other material. It pulled together previous specific agreements and is, in effect, an open-ended agreement to

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<sup>10</sup> General Lauris Norstad, reproduced copy of a speech on NATO to the annual Banquet of RCAF Association, North Annual Convention, at Montreal, 15 May 1959, p. 3-4.

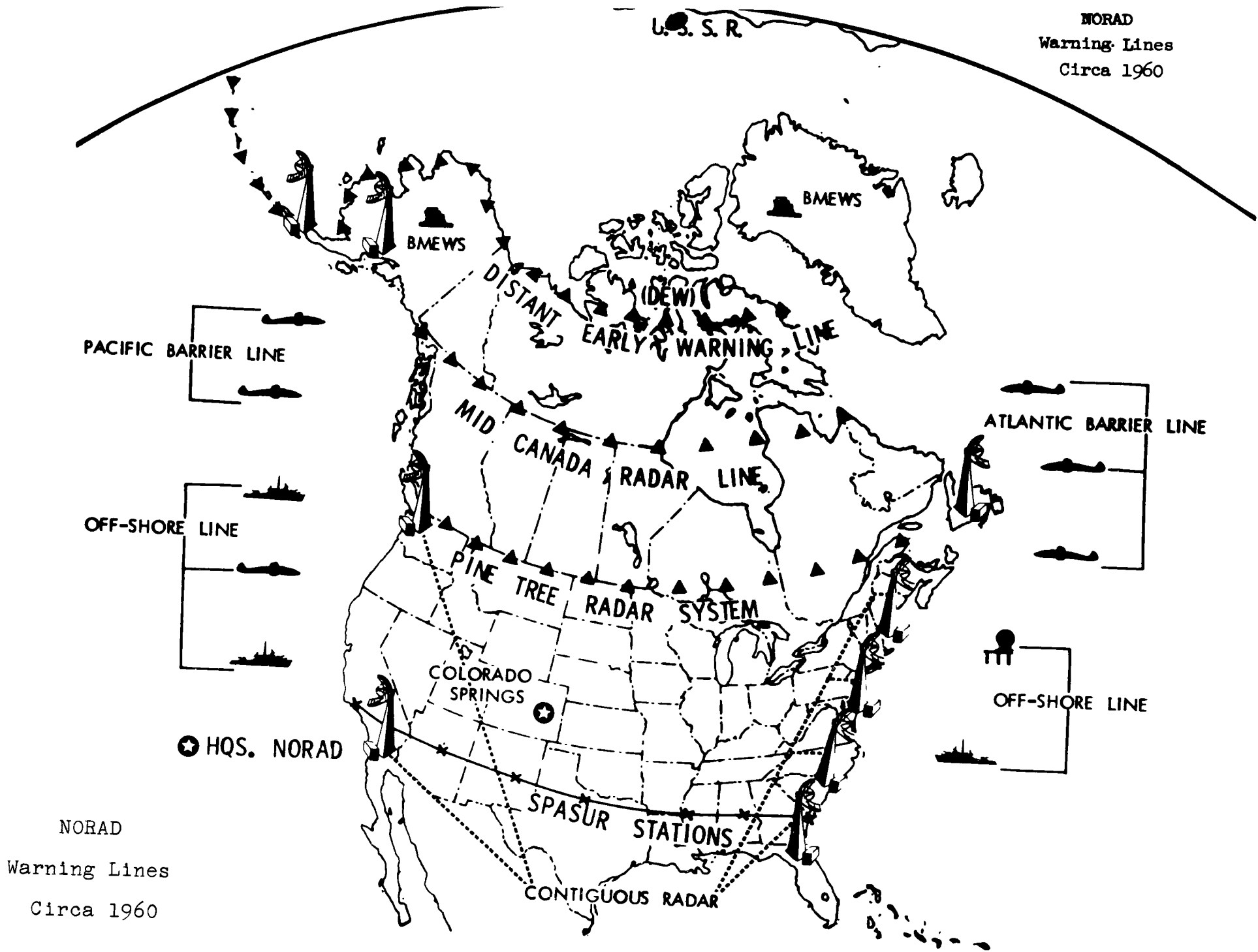
## ORIGINS AND DESCRIPTION OF NORAD 14a

cooperate in using personnel, territory and equipment over an extended period of time to include such ad hoc arrangements as might be considered necessary. To many civilian and military authorities there was implicit in the Agreement the willingness to accept such up-dated weaponry as might come into use during the period covered. The implications of this interpretation came to be recognized only when nuclear arms came to be vital in large scale air defence.

### 3. The NORAD "Fences", an Overall Sketch

In efforts to eliminate surprise attacks, the system shown at Illustration 1 was established.

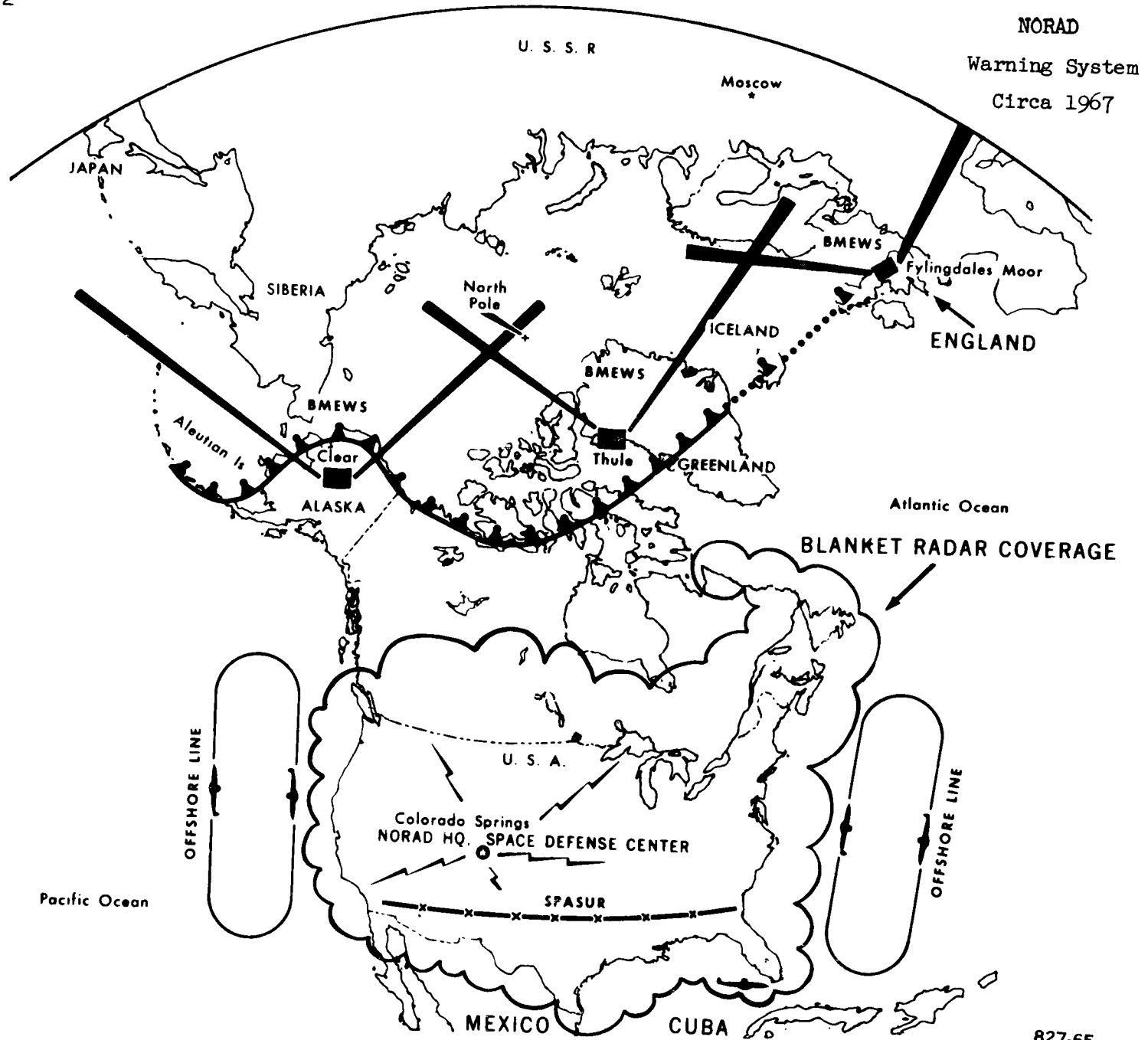
Beginning in 1951, the radar warning net known as the Pinetree Line was set up roughly along the 49th parallel. It was built and manned jointly by Canada and the United States and consisted of a net of overlapping radars across Canada and up its east coast. It had the capability of



NORAD  
Warning Lines  
Circa 1960

NORAD  
Warning Lines  
Circa 1960

Illustration 2



NORAD  
Warning System  
Circa 1967

827-65

detecting approaching aircraft and could also control the intercepting fighters. South of it was a network of aircraft control and warning radar stations within the United States. Offshore in the Atlantic and Pacific Oceans were picket ships, patrolling planes, and a few "Texas Towers". In years past, Navy blimps had thickened the patrols. Northward was the Mid-Canada Line, a radar fence built and manned by Canada, extending approximately along the 55th parallel. This line or "Fence" commenced operations in 1957. "The Passage of any aircraft through this electronic fence is instantly detected and this information is relayed immediately to appropriate points within the Pinetree system<sup>11</sup>". Still further north is a "burglar alarm", the Distant Early Warning (DEW) Line extending across the northern rim of the continent<sup>12</sup>. Its information is also relayed to the Pinetree system and additional key points within North America. Reaching out still farther, over the North Pole and watching the skies over the Union of Soviet Socialistic Republics is the Ballistic Missile Early Warning System (BMEWS). Its three sites are at Thule, Greenland; Clear, Alaska; and at Fylingdales

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11 Air Commodore D.A.R. Bradshaw, in a speech before the Quebec Group, Royal Canadian Air Force (RCAF) Association on February 22, 1958, p. 2.

12 "NORAD's Mission: Defend North America Against Air Attack", in ITT Service Reporter, April 1960, p. 4-6.

ORIGINS AND DESCRIPTION OF NORAD

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Moor in northern England. It is used to detect the launching of long-range missiles from within the Russian landmass.

This then is a geographic sketch of the North American Air Defence Command.

## CHAPTER III

## HOW NORAD OPERATES

In order to obtain a clear understanding of the effects of NORAD on Canada, it is necessary to go beyond its background, antecedents and beginnings. It is necessary to have a grasp of its concept, size, organization, complexity of operations, and a comprehension that it has been not a static but an evolving and improving means of defending a continent.

1. The Concept - Why are Canadians in NORAD?

As Air Marshal Slemon stated the case in 1961, the reason Canadians are in NORAD is easily explained. Years ago both Canada and the United States realized that so far as air defense was concerned, they stood or fell together. If the enemy seized either country, or gained control of its air space, neither country would survive<sup>1</sup>. Their bomber force could approach the North American continent by crossing the Atlantic, the Arctic or the Pacific Oceans - a frighteningly vast front to cover. On occasion, a view is expressed that a system of air defence such as NORAD is proving to be so costly and so difficult to develop, maintain and up-date from time-to-time that the resources

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<sup>1</sup> Air Marshal C. R. Slemon, "What Is NORAD?", reproduced copy of a speech delivered to the assembled Colorado Springs Civic Organizations, 15 March 1961, p. 3.

alloted to it could better be spent on our offensive threat and then proceed to use this latter as the sole deterrent. This is a dangerous view. Again as pointed out by Air Marshal Slemon in 1961:

As both the free world and communism amass more and more highly destructive offensive weapons, we will reach a condition of offensive stalemate with each side capable of knocking out the other -- a stalemate condition which may deter war. Obviously the side which achieves (first) an effective defense (sic) against the other's offensive weapons can break the stalemate and enjoy an overwhelming advantage. It is unthinkable that we should allow the Soviets to be the first to produce effective aerospace defenses, leaving us, alone, vulnerable to their offensive weapons, their blackmail and their dictation<sup>2</sup>.

## 2. The Threat

The threat as seen originally was the Soviet long-range manned bomber air force. After the Soviets obtained numbers of atomic bombs, they began to pose a greater and greater threat to North American security. This threat continued throughout the decade of the 1950's and in 1965 received new credibility from rumors and reports that the Soviets were updating their aircraft in addition to their ICBM's, apparently intending to preserve a manned bomber force of medium and long-range aircraft. Also, during the 1950's it was realized that Soviet ballistic missiles

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2 Ibid., p. 4.

would one day be an additional threat which could ultimately be an even greater danger than aircraft. At that time, it was foreseen that the manned bomber might degenerate to a secondary threat. However, even then it would represent a threat which could be fatal. Thus even a defence system good only against the secondary threat would still be necessary for survival. The threat was also growing from the sea where the submarine-launched missile, first a low-altitude winged type, but later a ballistic missile, was becoming an accurate and dangerous weapon system.

### 3. Defence in Depth

Initially the air defence of the continent was quite shallow. In addition, before the Pinetree Line became effective, the North American defence system in Canada, consisting of suitable fighters and the necessary associated ground environment, was very weak, and offered little deterrent to air attack. As the NORAD system developed its strength so did the Soviet threat; and although there was always newly improved equipment being developed in the laboratories, the defence system had to be prepared to fight with what it had on hand. This evolution affords a classic example of the age-old military attack-versus-defence problem: first there were a few Soviet bombers faced by an

## HOW NORAD OPERATES

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elementary fighter defence; then larger numbers of bombers faced by a more complex defence of warning equipment, fighters and antiaircraft missiles; today a mixture of Soviet bombers and long-range missiles faced by an intricate warning system with fighter and missile defence.

As Air Commodore Bradshaw pointed out when discussing the matter in 1958, the Pinetree Line began by providing warning just north of some of the most important industrial target areas in North America. As scientists and engineers improved bomber aircraft characteristics in speed, height and range, it became necessary to detect these aircraft farther away. Thus as early as 1952-1953, it was decided to construct the Mid-Canada Line. Then on 5 May 1955 the Canadian Ambassador to the United States and the Secretary of State of the United States signed a formal agreement concerning the construction of the Distant Early Warning Line in order to deepen further the defences<sup>3</sup>. Since 1957 they have been able to provide six to eight hours warning of propeller-driven bombers and three to four hours for jet bombers. As of 1958, this type attack was the main threat, and the warning provided would have been

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<sup>3</sup> Canada Treaty Series 1955, No. 8, Queens Printer, Ottawa, 1955, p. 2.

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adequate. However, at that time the NORAD system was not able to detect and track intercontinental ballistic missiles (ICBM's), although it could detect the bomber aircraft of the day. The bombers had a ceiling of forty to fifty thousand feet, where the air pressure is about 15% of its value at sea level; and the NORAD forecast was that future winged bombers and intercontinental "cruise" missiles, weapons systems which have air-breathing engines, were not likely to fly too much higher than fifty-thousand feet. This appeared valid since at one hundred thousand feet the air pressure is only 1% of its sea-level value and presents great problems to air-breathing vehicles. They recognized that in place of higher altitude, increased speed and smaller targets would be their problem, and since their radar and other detection equipment would not require major modification, the problem of reacting with greatly reduced warning time deserved their greatest concentration<sup>4</sup>.

This proved to be a sound evaluation, since the intercontinental ballistic missile was beginning to pose a more and more serious threat as Soviet production increased. "A typical trajectory coming over the Arctic to Montreal would be completed in 20-25 minutes from launching point to

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<sup>4</sup> Air Commodore D.A.R. Bradshaw, in a speech before the Quebec Group, Royal Canadian Air Force (RCAF) Association on 22 February 1958, p. 5-6.

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target and would rise over 300 miles from the earth<sup>5</sup>". Since the Distant Early Warning Line is located approximately half-way along such a trajectory, even when more refined detection equipment became available, and detection became possible, the warning time to Canadian or northern United States targets would run approximately twelve minutes if the warning were initiated only when the missile passed over the line. Thus a new approach to the problem was essential, for even when newly designed detection equipment became available, the speed alone of the incoming attack would defeat the defence. As a result, by 1958 efforts were under way to reach out well beyond the Distant Early Warning Line in order to secure at least twenty minutes warning. This would "allow preliminary calculation of the trajectory in order to prepare the launching of a counter-missile<sup>6</sup>".

On 1 October 1961 a new era began in the aerospace (reaching out into space) defence of North America. After two years of construction the free world's first missile radar warning station went into action. This was the first step in giving NORAD the capability to combat intercontinental ballistic missile (ICBM) attack against Canada and the United States. These new radars could detect missiles as well as aircraft. On October 1st, the Ballistic Missile

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5 Ibid., p. 6.

6 Ibid., p. 7.

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Early Warning System (BMEWS) site at Thule, Greenland, six hundred miles north of the Arctic Circle, sent test signals more than two thousand miles south which activated special displays in the NORAD Combat Operations Center. This gave the battle staff their first dry run practice for a real ballistic missile attack. The second BMEWS station to come into operation was at Clear, Alaska<sup>7</sup>. The third station, at Fylingdales Moor, England, was officially put into operation on 17 September 1963. By that date the three stations had been testing their operations for two months, finally culminating a building project of nearly six years to get the complete system operating.<sup>8</sup>

## 4. Organization

From one point of view NORAD can be described as being composed of five separate and distinct components. As of 15 March 1961, they were:

The Royal Canadian Air Force Air Defence Command, commanded by Air Vice Marshal MacBrien with headquarters near Montreal.

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<sup>7</sup> "The North American Air Defense Command", pamphlet from the Office of Information, Headquarters NORAD, October 1961, p. 6.

<sup>8</sup> Lawrence Fellows, "Huge Radar Station Goes Into Operation in Britain", New York Times, 18 September 1963, p. 12.

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The United States Army Air Defense Command, commanded by General Wood with headquarters near Colorado Springs at Ent. Air Force Base.

The United States Air Force Air Defense Command, commanded by General Lee with headquarters inside Know Hill near Ent. Air Force Base.

The United States Naval Forces assigned to air defense, commanded by Admiral Ahroon with headquarters at Ent. Air Force Base.

The Air Defense Forces of Alaska, commanded by General Armstrong of the U.S. Air Force with headquarters in Alaska.

By 1967 these senior officers included Air Vice-Marshal Michael E. Pollard, RCAF, Commander of Canadian Forces, Air Defence Command; Lieutenant General Robert Hackett, Commanding General, U. S. Army Air Defense Command; and Major General John N. Ewbank, Jr., Commander of the underground Combat Operations Center inside Cheyenne Mountain, Colorado<sup>9</sup>. They all provide, train and maintain forces for the air defence of the continent. If they operated independently they would be ineffective because they would lack the reaction speed necessary to combat hostile high-speed weapons. Therefore, NORAD exists, a completely coordinated aerospace defence, a single system under one operational

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9. See Appendix 5 for photographs of senior commanders of NORAD.

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control. The staff at the headquarters is composed of personnel from the RCAF, U. S. Army, U. S. Navy, including a few Marines, and U. S. Air Force. In 1961 a U. S. Air Force officer, General Kuter, commanded; and Air Marshal Slemon, RCAF, was the deputy commander. By 1967 the incumbents of these key positions had changed. General R. J. Reeves was the commander, and Air Marshal C. R. Dunlap, RCAF, was the deputy and acting commander much of the time when General Reeves was travelling. This actual command function in NORAD by a Canadian Air Marshal represents the first time that a military officer from another country ever controlled American forces on United States soil in either peace or war. Thus his decision could affect over two hundred million Canadians and Americans<sup>10</sup>.

Under the NORAD commander there are not only the warning and detection lines but also a vast array of deadly weapons. In 1959 there were 69 manned interceptor squadrons of which 9 were Royal Canadian Air Force, commanded from its headquarters at St. Hubert, Quebec. These were AVRO CF-100 all-weather interceptors armed with rockets as their main weapon. One of the remaining squadrons was U. S. Navy

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<sup>10</sup> Group Commander R. L. Denison, DFC, mimeograph copy of address entitled "Some Developments in Canada's Air Defence Over the Past Five Years", to the Winnipeg Naval Officers Association, 5 May 1961, p. 4.

equipped with F4D Skyrays. The other 59 comprised a major part of the United States Air Force Air Defense Command and were composed of F-102 Delta Daggers, Northrop F89J Scorpions, F-104 Starfighters, and McDonnell F-101 Voodoos. The Convair F-106 was coming into production and was expected to join. By 1967 the F-106's had joined. Both Canada and the United States had 101-B Voodoos, and the F-102's and F-104's filled out the defences.

In addition there were 61 batteries of the NIKE missile family for joint defence of important industrial targets and centers of population in the United States. The shorter range NIKE AJAX were being replaced by NIKE HERCULES with three times the radar-guided range<sup>11</sup>. By 1967 this total had risen to 110 air defence batteries of NIKE HERCULES, plus several new batteries of HAWK, designed to knock down low-flying planes attempting to sneak in under the major radar defences. These batteries have special low-angle radar. Still in the future are the NIKE ZEUS and the SPRINT missiles to be used against ICBM's. They have been tested extensively, but have not yet been added to the NORAD inventory.

This NORAD arsenal was designed to be flexible, to furnish defence in depth, and is being controlled more and

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11 Ernie Hemphill "NORAD Hits Stride, Now Packs Enough Punch 'To Win a War'", Canadian Aviation, Vol. 32 Number 2, February 1959, p. 24-27.

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more by the SAGE System (Semi-Automatic Ground Environment) in order to solve more rapidly and with fewer errors the shockingly complex problems of closing speeds, range of weapons, time remaining before launching of missiles carried by the aircraft, and forecasting of saturation of a defence area in time to provide reinforcement from the least vulnerable remaining area.

A typical defence would have operated as follows. When attackers were picked up by BMEWS or the DEW Line in the Arctic, the defence forces would have been alerted and tracking of the enemy formations would have been initiated. Masterminded by SAGE, interceptor squadrons would have been alerted and vectored to blocking positions. When enemy direction, altitude and speed were confirmed by the electronic fence of the Mid-Canada Line, the Pinetree Line control would have sent the interceptors in to destroy the enemy, vectoring them until the enemy was sighted or picked up on the interceptor radar. If any enemy had reached target areas protected by NIKE or later BOMARC, these weapons would have taken over and completed the job of destruction. In many practice runs, these tactics were proven. Fortunately they have never had to be used with live ammunition, either conventional or atomic warhead. In 1967 the organization and tactics remain basically the same except that parts of the Mid-Canada and Pinetree Lines are no longer operated

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as lines. Instead a vast network of detection stations interlaces the interior of the continent.

In summary, NORAD is responsible for four basic air defence actions: detection, identification, interception and destruction. In peacetime the identification problem requires timely assistance from the agencies controlling civil aircraft over North America. The interception and destruction aspects are controlled and practiced by NORAD proper, with the battle starting out at the extreme range of the interceptors and the BOMARC's, and coming clear back to the NIKE "point defences". These phases are more and more coming to be controlled by the high-speed electronic computers of SAGE which give the NORAD commander in seconds the information he requires for battle control.

In all, the total NORAD forces comprised two-hundred thousand personnel including some seventeen thousand Canadian fighting men.

For the future NORAD envisions carrying out the same protective missions as in the past, with more and more emphasis on missile detection and destruction. In addition the Space Detection and Tracking (SPADET) mission is assuming greater importance. In order to detect attacks from space, NORAD's Space Detection Center watches and catalogues nearly 1200 man-made objects orbiting the earth<sup>12</sup>. This is

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a complicated and endless task, since while less than 50 per cent of the listed objects are still aloft, new missiles from several nations are now launched each month. It appears that this mission will go on as long as man reaches out towards the moon and beyond, if only to avoid collisions with objects already in space.

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12 "UFO's (sic - Unidentified Flying Objects) Not Saucers, No Threat", NORAD News Service, No. 144, 11 August 1967, p. 1, columns 3, 4, 5.

## CHAPTER IV

## EFFECT OF NORAD ON CANADIAN INTERNAL POLITICS

## 1. Purpose

The purpose of this chapter is to discuss the impact of the North American Air Defence Command (NORAD) on internal Canadian politics insofar as it can be handled separately from Canada's international political scene, which will be discussed in the following chapter. It should be strongly affirmed, at this point, that the convolutions of the two are closely intertwined and that even within the Canadian scene itself it is not always possible to keep separate the matter of defence policy from debates on disarmament-versus-the-nuclear-question, or the nuclear debate from party politics and pre-election-jockeying or party politics from exhibitions of statesmanship.

## 2. Defence Policy of Canada

Just as in the case of the other Western allies, the defence policy of Canada during the period under consideration was based first on what the threat was considered to be. Douglas Harkness, Minister of Defence, expressed this very clearly in 1961.

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There is evidence all around us, for everyone to see, that there is a real threat to the security of the Western World. This threat, which arises directly out of the avowed aim of communism to dominate the world, takes many forms and makes use of a wide variety of tactics: subversion, infiltration, virulent propaganda, terroristic threats of nuclear destruction, economic warfare, and every other device short of open military conflict.

It is obvious that we are engaged in a struggle for our very existence - a long term struggle in which we have to use every means at our disposal to ensure the survival of our freedom and of our democratic institutions. We of the West have more to offer than the communist nations, and I am confident that over the long haul, we shall prevail<sup>1</sup>.

He pointed out that militant communism had already traveled quite a distance toward its goal. From 1940 to 1948 in Europe alone, the Soviets seized control of a dozen countries, over five hundred thousand square miles and one hundred fifteen million people, largely through military force.

The military strength and potential force of the Soviets posed one of the greatest threats to all Western countries, including Canada. Therefore, Harkness stated, the maintenance of military forces was an important part of the security program of Canada, and the most important part of Canada's defence program was membership in alliances

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1 Douglas Harkness, in an address to the annual meeting of the RCAF Association at Winnipeg, Manitoba, 19 May 1961, p. 2-3.

which aimed at the maintenance of peace and the prevention of war. The maintenance of peace was the essence of Canada's defence policy.

President Kennedy had made much the same point two days earlier in the House of Commons when he stated that the defence of Europe and the defence of North America were indivisible and that he hoped that no aggressor would mistake ". . . our determination to respond instantly with whatever force is appropriate. . .<sup>2</sup>".

Harkness then elaborated that it was the deterrent power of NATO which had kept the peace since 1949 and that in a military sense this deterrent consisted of four elements:

1. The nuclear retaliatory power comprising long-range bombers and missiles of the U.S. Strategic Air Command, medium-range missiles in Europe, missile submarines, and the V-bomber force of the United Kingdom.

2. The defensive forces protecting the retaliatory forces: NORAD and the NATO forces deployed along the Iron Curtain.

3. The will and determination to provide the men and equipment for the first two elements.

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2 John F. Kennedy, mimeograph copy of address in the House of Commons, Ottawa, 17 May 1961, p. 6.

4. The credibility that the enemy places in this military strength and our determination to use it in defence of freedom<sup>3</sup>.

He pointed out that the validity of the deterrent could rapidly erode, if NORAD could not allow the Strategic Air Command sufficient warning to get airborne before their bases were struck. Although there was no defence at that time against the ICBM, once it had been launched, Harkness declared that the West protected itself by using the deterrent to discourage anyone from launching it. Thus, he said:

Our membership in NORAD and NATO takes us a long way towards achieving the aim of our defence policy. The Western Alliance has put a stop to aggression in Europe and has reduced to very small proportions the likelihood of an aggressor launching a deliberate attack, either conventional or nuclear, against any, or all, of its members<sup>4</sup>.

It is interesting to note here that through NATO the NORAD organization has a connection with the United Nations, to which Canada has also supplied thousands of troops for police action. The preamble to the North Atlantic Treaty states that "The Parties to this Treaty reaffirm their faith in the purposes and principles of the Charter of the United Nations and their desire to live in peace

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3 Harkness, Op. Cit., p. 3, 5, 8.

4 Harkness, Op. Cit., p. 9.

with all peoples and all Governments<sup>5</sup>". In addition, Article 5 affirms that each of the NATO members will assist any member attacked in exercise of ". . . the right of individual or collective self-defence recognized by Article 51 of the Charter of the United Nations. . .<sup>6</sup>".

Thus, these three alliances, in which Canada retains membership, have a closer bond with each other than is often recognized, and Canada's defence policy has a more unified basis than is sometimes implied by partisan speakers.

Harkness went on to defend Canadian membership in NORAD from a geopolitical point of view. He demonstrated that Canada was on the route most likely to be used by an enemy in attacking the United States and that Canada was sure to be affected by the attack. He explained that the vast Canadian air space played a vital part in defending the retaliatory forces which Canada, the other members of NATO, and the whole free world depended on. He insisted that Canadians had to look at their defence program as a whole and not "in bits and pieces"<sup>7</sup>".

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<sup>5</sup> North Atlantic Treaty, in The NATO Handbook, 1963, p. 10, 11.

<sup>6</sup> See Appendix 4 for the text of Article 51 of the Charter of the United Nations.

<sup>7</sup> Harkness, Op. Cit., p. 12.

He agreed that withdrawal from NORAD and NATO would ". . . deny Canada a strong voice in the formulation of defence policy that, whether we like it or not, is sure to have a serious effect upon us<sup>8</sup>". He stated, "I think that we must stop deluding ourselves. We want to preserve our freedom and our democratic institutions - and we want to have a say in how that can best be done<sup>9</sup>".

He considered that Canadians did not want to stand idly by and let someone else pay for their security, and that they should take a hard look at the world situation and the probable results of a "do nothing" defence policy<sup>10</sup>.

A few months later, P. Hellyer, Liberal member from Trinity, reinforced many of Harkness's statements. He opened his address on the Estimates by asserting that the defence policy of Canada should be dedicated to the maintenance of peace rather than the waging of thermonuclear war, and that Canada must keep on working with the other members of NATO. He thought that the inter-dependence of the NATO members meant that Canada had to consider Western strength and capability as a whole before she could discuss

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8 Ibid.

9 Ibid., p. 12, 13.

10 Ibid., p. 13.

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intelligently what contribution she should make to collective security<sup>11</sup>.

This view had been propounded by General Foulkes in 1959 when he stressed that Canadian defence policy was based on maintaining collective security within the NATO defence alliance, and that thereby Canada was able:

. . . to achieve collective defence along the most economical lines by allowing each partner to contribute the kind of forces it can best produce and equip and not requiring each partner to have in existence, all the types and varieties of forces; in other words, small nations like Canada are not required to have complete and balanced forces in miniature with all the elaborate administrative organization which is required by world powers such as the United Kingdom and the United States. What we try to do in NATO is to create this overall balance of forces and, as one distinguished critic has stated, avoid the creation of too much harness and not enough horse<sup>12</sup>.

Similarly, as the third session of the twenty-fourth Parliament closed on 10 August 1960, it was concluded that a responsible nation should contribute its part to the defensive strength of the free world. It was considered that Canada remained under obligation to provide forces for the defence of North America, to contribute to the North

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11 P. Hellyer, Hansard, 11 September 1961, p. 8226.

12 General Charles Foulkes, "Canadian-United States Cooperation in Defence", mimeographed copy of an address to the Canadian-United States Business Conference in Ottawa, 18 February 1959, p. 10.

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Atlantic Alliance and to contribute to the support of the United Nations<sup>13</sup>.

Thus, the Canadian defence policy, as exhibited by the forces deployed and in training in Canada, and deployed for NATO and the United Nations overseas, and also as discussed by many political and military spokesmen, appeared to be a practical arrangement involving membership in a system of alliances. There was often agreement that there was probably no such thing these days as a purely military policy problem since most defence problems involve important economic, diplomatic and technological problems in addition to the military factors.

### 3. Party Politics

From its very inception, the multifaceted subject of NORAD was one of the most discussed and explosive issues in Canadian politics. Feelings and views on the subject were intense even before the command was officially in existence. For example, as early as 5 December 1957, W. L. Henderson, Liberal Member from Kingston, suggested that a review should be made of the establishment of NORAD. His basis was that it appeared that consultation had taken place on a military, rather than a government level. He pointed out that "the Order-in-Council established only the appointment of Air

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<sup>13</sup> Closing comments of the third session of the Twenty-Fourth Parliament, Hansard, 10 August 1960, p. 7953.

Marshal Slemon as Deputy Commander of NORAD and gave no justification for other service personnel at Colorado Springs<sup>14</sup>. He went on to state that NORAD had not been established in conformity with the precedent which had been established by the Ogdensburg Agreement as had been alleged by the Government. He then proposed that the establishment of NORAD be reviewed by the Minister of National Defence and the Secretary of State for External Affairs in order "to insure that Canada would not be brought into a sphere of policy whereby war would be thrust upon Canada by neither her own making nor concurrence<sup>15</sup>".

As a matter of fact, the Liberal Party should have been awarded the credit or the blame for NORAD, for they had been in power for twenty-two years beginning in 1935. According to General Foulkes they had agreed as early as 1946 that the protection of the skies over North America should be accomplished by joint air defence<sup>16</sup>. Whatever year is taken as the starting date, it was undoubtedly the Liberals who gradually established the cooperative system of air

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14 W. L. Henderson, Liberal Member from Kingston, Hansard, 5 December 1957, p. 1906-1909.

15 Ibid.

16 General Charles Foulkes, "Canadian Defence Policy in a Nuclear Age," pamphlet of the "Behind the Headlines" series, 1959, p. 27.

defence of North America with the United States. They were the ones who authorized the joint staff study which resulted in the final recommendation establishing NORAD, and in February 1957, the Liberal Minister of National Defence recommended the establishment of an integrated operational control system for the air defence of Canada, the United States and Alaska under a single commander. This was NORAD, although the formalized NORAD arrangements were made later by the Conservatives in July 1957, when the matter was next considered after the general election in June. The formal notes were finally signed nearly a year afterwards on 12 May 1958, after the Conservatives had won their second general election in less than a year.

Therefore, when the Liberals, after losing the general election of 10 June 1957, began to badger the new government on the subject of the NORAD, much of the questioning must be attributed to party politics. They were questioning a policy which they themselves had established in fact, and merely had not had time to confirm by formal agreement or treaty before they were pushed out of office.

This was only the beginning. The New Democratic Party members criticized from the point of view that the NORAD agreement was a foreign entanglement which could lead to war and because of the annual expenses which seemed to have no foreseeable ceiling. The Liberals kept hammering through the years and after losing the election of 1958,

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finally in 1963 defeated the Conservatives in a general election which largely pivoted on the nuclear-weapons-in-Canada question. This matter had become an issue largely through the acquisition of air defence weapons for NORAD which required nuclear warheads, if they were to be effective as continental defence weapons. Politics during the six years of Conservative rule were noisy and active, with NORAD-related questions frequently front-page news.

A question during this era did not necessarily have to be relevant so long as it kept the pot boiling. Although not germane to the Canadian scene, it was noted in Canada that the United Kingdom Minister of Defence was reported to have said that before U. S. long-range bombers could launch an attack from bases in the British Isles, the consent of the United Kingdom government would have to be obtained. There were, of course, no such aircraft stationed in Canada, but the comment received wide publicity any how.

In August 1957, a newspaper article entitled "Liberals to Hit U. S. - Canadian Air Command" alleged that the Liberal Party might seek to make a political issue of the matter by saying that catering to American interests in the pipeline issue was "small potatoes" compared to giving away command of Canada's Air Force<sup>17</sup>. Former External Affairs

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17 "Liberals to Hit U. S. - Canadian Air Command", Montreal Gazette, 30 August 1957.

## EFFECT OF NORAD ON CANADIAN INTERNAL POLITICS 42

Minister Pearson, who had also been one of the "Three Wise Men" of NATO and the chairman of the North Atlantic Council 1951-1952, was alleged by the same article to have made the point that perhaps NORAD should have been a NATO command rather than Canadian-American. The Liberals were reported to be planning to charge that in a NATO command, Canada might have been less immediately under the thumb of the United States<sup>18</sup>! In point of fact, NORAD is often considered to be a command within the NATO North American Regional Command, as noted above in Chapter II.

The Conservatives were expected to point out that Mr. Pearson, while he was in office, made no public comment such as the one above. They were also expected to state that Defence Minister Campney surely must have consented to the plan before the election, that Mr. St. Laurent said that he had known of the joint command plan before he left office, and that Armed Forces personnel, who would have to remain anonymous, had commented that the Liberals had preferred not to announce the plan on the eve of the campaign, but desired to approve it after winning the election. So the arguments went<sup>19</sup>.

A few days later, a similar article indicated that the Liberals intended to oppose increased integration of

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18 Ibid.

19 Ibid.

Canadian and United States forces. They felt that the defence of Canada was falling more and more into the hands of the United States Armed Forces. The article went on to reveal that it was known that the Liberals, when in office, had tried to get NATO to take greater interest in the defence of North America. It was reported that Pearson had stated in Paris that European members should help defend North America as well as the other way around. The result, in part, would be that the defence of Canada was a portion of overall NATO strategy rather than being directed by the United States. This urging had been evident when there had been talk of American fighter squadrons being based in Canada. The Liberals had desired that they be designated as NATO rather than United States forces. After losing the election, it was alleged, in the newspaper article, that Pearson was concerned over the risk that ". . . all Canadian defence planning may be done in Washington<sup>20</sup>".

In November 1957, Mr. Pearson said in Parliament that answers to questions from the Opposition members, relevant to setting up NORAD, had not been very clarifying, and that in particular two statements by the Prime Minister had

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20 "Defence Worries Liberals", Montreal Gazette, 9 September 1957.

not added to the clarification. He added that they were not seeking security-type information, but that he thought that the House was entitled to at least as much information as was being given to the people of the United States by their Secretary of State<sup>21</sup>.

On the following day, Knowles, Cooperative Commonwealth Federation member, asked if the Prime Minister could inform the House when it was that Parliament gave its consent to the appointing of Air Marshal Slemon, and to the stationing of him and some forty RCAF men at Colorado Springs. He said that he asked, because of the Prime Minister's statement, that Canadian troops should never be required to serve beyond the confines of Canada without the consent of Parliament<sup>22</sup>.

On 5 December, the Liberal member from Trinity-Conception criticized the Minister of Defence for working out the military details of NORAD before the political responsibility had been determined<sup>23</sup>. The Minister stated later that there had been continued liaison with the Department of External Affairs since May 1956, reference the

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21 L. B. Pearson, Liberal member from Algoma East, Hansard, 26 November 1957, p. 1523.

22 S. Knowles, Cooperative Commonwealth Federation member from Winnipeg, North Centre, Hansard, 27 November 1957, p. 1566.

23 L. T. Stick, Liberal member from Trinity-Conception, Hansard, 5 December 1957, p. 1917 - 1919.

establishment of NORAD. He went on to assure the Opposition members that he appreciated the importance of civil control of the armed services and that the military would not be permitted to usurp the civil authority<sup>24</sup>.

The following month, during a debate on Supply, the Leader of the Opposition, when moving an amendment calling for the resignation of the government, said that there existed utter confusion and contradiction over the establishment of NORAD:

. . . with no parliamentary discussion or decision with regard to that vitally important step. Indeed, so far as we know, up to this moment there has been no inter-governmental agreement on which a discussion can be based. I will leave it at that - the confusion in this particular matter is one of baffling bewilderment<sup>25</sup>.

On 24 January 1958, in answering a question by the Liberal member from Kingston, whether a formal agreement had been concluded on NORAD, the Minister of National Defence, reminded the House that only two days earlier the Secretary of State for External Affairs had answered the Leader of the Opposition that the note had not been concluded and that negotiations were being carried out through normal diplomatic channels. He considered it unrealistic to think that forty-eight hours could have seen a change in the

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<sup>24</sup> George Pearkes, Minister of National Defence, Hansard, 5 December, 1957, p. 1928-1929.

<sup>25</sup> L. B. Pearson, Leader of the Opposition, Hansard, 20 January 1958.

## EFFECT OF NORAD ON CANADIAN INTERNAL POLITICS 46

situation<sup>26</sup>. However, realism was not what the Liberals were after. They wanted an uncertain turbulent atmosphere in which they hoped they could have a general election to unseat the Conservatives.

The Conservatives, too, wanted the election. Parliament was dissolved on 1 February 1958, the Conservatives won the election held on 31 March, and Parliament was convened on 5 May 1958. The same tune concerning NORAD was still being played, but it is noteworthy that the Conservatives took cognizance of what the Liberals had been hammering on. In the statement by Mr. Sidney E. Smith, Secretary of State for External Affairs, on tabling the Exchange of Notes concerning NORAD on 19 May 1958, in the House of Commons, two of the main points of the Liberals were covered in such a way as to preclude great political capital from accruing thereafter to the Opposition. Smith stated that the integration in NORAD, which had been formally agreed to the previous week, was the practical application of the principle of interdependence of the NATO Alliance. He said that it would increase the ability of the two countries concerned to meet the strategic objectives established by NATO for the Canada-United States Region. He pointed out that other Canadian forces had already come under control of

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<sup>26</sup> George Pearkes, Minister of National Defence, Hansard, 24 January 1958, p. 3733.

## EFFECT OF NORAD ON CANADIAN INTERNAL POLITICS 47

the Supreme Allied Commander in Europe (SACEUR) and that Canadians were serving in the wholly integrated headquarters of the Supreme Allied Commander Atlantic (SACLANT). He stressed that the North American continental effort was an integral part of the NATO defences.

He then went on to cover the matter of civil political control over the military command. He specified that the commander-in-chief of NORAD was responsible to the Chiefs of Staff Committee of Canada and the Joint Chiefs of Staff of the United States. They, in turn, sought approval of their political authorities. The commander would operate within a plan approved by the two governments, and that the appointment of both him and his deputy, and their terms of reference, would likewise be approved by the two governments. He assured the House that there had never been any doubt by either government of the primacy of civilian authority<sup>27</sup>.

On 21 May, the Liberals continued their attack. The member from Richelieu - Vercheres said that the Prime Minister had attempted to ignore the accepted traditional and constitutional procedure of dealing with international agreements of the scale of importance of the NORAD pact,

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27 Sidney E. Smith, Secretary of State for External Affairs, Statements and Speeches, No. 58/18, Information Division, Department of External Affairs, Ottawa, p. 2-3.

## EFFECT OF NORAD ON CANADIAN INTERNAL POLITICS 48

which included arrangements for stationing Canadian troops abroad. (This type of comment was likely to recall in French Canada the specter and grief of the conscription issue of World Wars I and II.) He went on that never before had Canada entered into an international agreement of this kind without introducing the agreement in the House by way of a resolution and having the agreement ratified by Parliament after full and formal discussion<sup>28</sup>.

On 10 June, the Prime Minister directly answered this type of argument in his opening remarks concerning the resolution relating to the approval of the NORAD agreement. He stated that on the basis of both law and constitutional practice there was no necessity to present this motion. However, the resolution was presented in order to give those "who hold views on this matter, the opportunity of placing them before the House for the benefit, not only of the House, but of the country as a whole<sup>29</sup>".

The Prime Minister went on to say that when his government took office, it decided that integration of operational control of Canada's air defence should not be delayed.

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28 L. Cardin, Liberal member from Richelieu-Vercheres, Hansard, 21 May 1958, p. 358.

29 J. G. Diefenbaker, Prime Minister, Hansard, 10 June 1958, p. 992.

It had thus authorized the establishment of the joint NORAD headquarters on a provisional basis while detailed minor terms of agreement were being worked out between the two governments.

The following day, Caron, Liberal member from Hull, speaking during the debate, said that the agreement had been entered into without Parliament having had the chance to examine it, and that it should have been submitted to the House many weeks or months ago so that the Government could have introduced something much more intelligible<sup>30</sup>. This followed the lead of the Leader of the Opposition, who had said that their doubts concerning the NORAD agreement were not opposition to the desirability of continental defence, but over the procedures in bringing this arrangement into operation. He had requested the debate in order to try to clear up the doubts, ambiguities, confusions and contradictions in regard to the procedures used. He considered that the Cabinet Defence Committee should have reviewed it first; that it then should have come before the full cabinet for discussion; and then been signed by the two governments. Thereafter, it should have been tabled in the House of Commons for discussion and decision. Only after these steps, should NORAD have been put into operation. He later added that this

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30 A. Caron, Liberal member from Hull, Hansard, 11 June 1958, p. 1056.

## EFFECT OF NORAD ON CANADIAN INTERNAL POLITICS 50

matter was never considered by the Canadian Cabinet in any way, shape or form at any time before June 10, 1958<sup>31</sup>.

In a sharp exchange following, Mr. Pearson asked the Minister of National Defence whether the NORAD commander could move reinforcements across the border to meet operational requirements. The Minister interjected that he had more than once stated that when United States Air Force bombers required to cross the border, they had to get prior permission from Canada. He said that Mr. Pearson knew well that the same arrangement existed when his government was in power<sup>32</sup>.

Even the "third party" leaped into the argument. H. W. Herridge affirmed that it was unpardonable that the Government had refused, until they had been subjected to Opposition pressure, to permit a discussion of an exchange of these important diplomatic notes with the United States<sup>33</sup>.

Martin then expressly brought up a point that has caused controversy in nations ever since governments have had both legislative and executive branches. He said that

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31 L. B. Pearson, Leader of the Opposition, Hansard, 10 June 1958, p. 1002.

32 George Pearkes, Minister of National Defence, Hansard, 10 June 1958, p. 1016.

33 H. W. Herridge, Cooperative Commonwealth Federation member from Kootenay West, Hansard, 10 June 1958, p. 1018.

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in addition to seeking more information on this matter, the members of the House were taking this occasion to insist on the right of Parliament to express approval or disapproval of this particular act of the executive arm of the government. He pointed out that it had been the practice, since at least 1926, for Canadian governments to ask Parliament to approve important treaties, and he listed as precedents the Peace Treaty of 1919, the North Atlantic Treaty, the Bretton Woods Treaty, and GATT, the General Agreement on Tariffs and Trade of 1948<sup>34</sup>.

## 4. The Climax

The debates and discussions continued with increasing heat through 1962. Then finally on Monday, 4 February 1963, the long-boiling pot boiled over, all over the red-hot political arena. On that day in the first two columns of the editorial page of The Gazette, in Montreal, the editor expressed the hope that if an election were to be called in Canada that week, it would be called for general reasons, and not with emphasis on agitation with the United States concerning the issue of nuclear arms. It was a balanced hope with patriotic concern for the overall good of the Canadian people, but it was in vain, as was foreshadowed in the following paragraphs of the editorial. He went on:

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<sup>34</sup> P. Martin, Liberal member from Essex East, Hansard, 10 June, 1958, p. 1023-1024.

## EFFECT OF NORAD ON CANADIAN INTERNAL POLITICS 52

. . . At such a time as this, when the western world needs to draw more closely together for the sake of every part of it, the temptation should be resisted to launch an election on what would amount to anti-Americanism itself.

There is undoubtedly an issue to be exploited here, if any party chooses to resort to it. For it remains true that the United States made a serious error in issuing a statement concerning an issue in Canadian politics, and doing it in a way that was, in itself, bound to be resented<sup>35</sup>.

He went on that the United States Secretary of State had made a measured apology, but that it seemed more concerned with the unfortunate results of the U. S. government statement than with what had been said. The editor thought it significant that it seemed that it was not only a State Department matter, but had White House implication also. He said:

. . . On January 31, the White House Press Secretary, Pierre Salinger, was asked whether this criticism in the statement had been cleared by the State Department with the White House. And Mr. Salinger replied: 'I am sure it was taken up with the White House'. (Sic. The U. S. government had complained that the Prime Minister had revealed confidential information to the public.)

The claim might be made that the issue does not concern a departmental slip but a matter of policy at high levels. If any party wishes, it could base its campaign in the next election on the policy that Canada must now assert, once and for all, that she will arrive at her own policies in her own way, without interference from any quarter<sup>36</sup>.

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<sup>35</sup> Editor, "Temptation in the Tares", editorial in The Gazette, Montreal, 4 February 1963, p. 6, Col. 1-2.

<sup>36</sup> Ibid.

## EFFECT OF NORAD ON CANADIAN INTERNAL POLITICS 53

The editor then pleaded that the political leaders should carefully weigh what the long view of history would have to say if a leader used an appeal "to call forth all the anti-American feeling, positive and latent, that may exist across the country<sup>37</sup>".

He said that after all, the United States was not an enemy, but a friend. Friends could make mistakes and have been known to exert undue pressure, but there were times when it was good to speak plainly. This could be quite different than trying to gain temporary political advantage. Small, mean political efforts could loose "a sort of revel, with the appeal to Canadian self-assertion being confused with hate and spite<sup>38</sup>".

He wanted the inept statement from Washington to be considered against the long refusal of Canada to make up her mind, for he thought that indecision over such a long period became almost a decision in itself.

He pointed out that the United States was the heart of the collective defence of the West against Communism, and that it was not unreasonable that she ask understanding of her problems and, within reason, some sharing of her burden, especially from a neighbor like Canada which occupies

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37 Ibid.

38 Ibid.

so great an area lying between her and the common source of danger. He thought that Canada's long delay might have gone beyond irritation and possibly become a matter of tactical concern.

He concluded:

. . . But any party that tries at this moment in history to gain strength for itself by sowing the tares of hate, will be sowing a poisonous crop. History would remember - and never forgive<sup>39</sup>.

That day in the House of Commons, the fireworks began immediately after Parliament opened. Minister of National Defence Harkness had submitted his resignation on Sunday, the preceding day, and rose on a question of privilege to make a statement concerning his resignation. During the year and a half he had held his post he had spoken frequently and well concerning the defence of Canada, and he was regarded highly in all groups of opinion as a statesman-like gentleman of great capability. This gave weight to his comments as to his thinking during the previous months.

He went on to say that when he had spoken on the preceding Thursday, he still felt that he and the Prime Minister were not far apart. They seemed to use the same words, but subsequently it came apparent that their views were irreconcilable. Harkness believed that Canada should have obtained nuclear warheads as soon as their weapons were

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39 Ibid.

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ready to receive them. He had considered that he could achieve this end better by remaining in the Cabinet rather than by taking what he thought of as the easier course of resigning<sup>40</sup>.

The Prime Minister answered that he found it difficult to understand this resignation. He then tabled the resignation in accordance with the regular custom<sup>41</sup>.

This whole action was against the background of a Conservative Government trying to walk an uneasily-swaying tightrope: a major split in the party, disturbed public opinion, decreasing popularity of the Prime Minister, increasing boldness and decisiveness on the part of the Liberals.

Harkness' resignation had been rumored, but delayed. Party meetings seemed to have patched up differences. The Cabinet appeared to have survived--bruised, but breathing.

Following Harkness' resignation, the debates which took place on the 4th and the 5th of February touched on many subjects, including ownership of Dorval property, tax exemptions of charitable donations and pilfering of documents and files of the French language press gallery<sup>42</sup>; but the

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<sup>40</sup> Douglas Harkness, resigning Minister of National Defence, Hansard, 4 February 1963, p. 3377.

<sup>41</sup> J. G. Diefenbaker, Op. Cit., p. 3377

<sup>42</sup> Balcer, Grofftey, Gregoire, Hansard, 4 February 1963, p. 3383, 3386, 3391, 3392, respectively.

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meaningful discussions covered one more time the main positions and arguments on the nuclear question and the defence policy with which it was so closely involved. These should be viewed against the situation as the public saw it at that time.

On the day the debate began, Cohen, writing for The Gazette of Montreal, tried to sum up the situation. His first paragraph stresses the importance of the nuclear question:

In our time the atom has become the supreme symbol of power and terror and no part of the human dialogue today is free from it. And because of it, Canadian politics, traditionally burdened with its own special problems of federalism, trade and 'identity', now faces an issue whose moral, political and technical features are more confusing, and divisive than perhaps any question before us<sup>43</sup>.

A review of government records as well as newspapers and periodicals reveals that even members of the Cabinet felt the confusion. When Harkness made his move, it was with the full realization that this would almost surely trigger a general election and very possibly the fall of the Progressive Conservatives from power. Yet the whole matter had so tangled governmental operation that he appeared to consider that the risk must be taken in order for governmental operation to be resumed on a more normal basis.

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<sup>43</sup> Maxwell Cohen, "The Defence Debate", article in The Gazette, Montreal, 4 February 1963, p. 6, col. 3-6.

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Maxwell Cohen noted in retrospect in February 1963 that by 1956, through the efforts of the Defence Committee of the Cabinet, which Lester Pearson had been saying should be reinstated, a great degree of unity between defence and foreign policy had been achieved. At that time there was reasonable clarity about the emerging role of Canada in NATO. Political leadership was not bedeviled by a serious split in public opinion.

In 1956-1957 there was a change. The Conservatives sharply attacked the Liberals during the Suez Crisis, destroying both the appearance and the reality of a bipartisan foreign policy. In turn, in 1957-1958 there was strong Liberal criticism of the Conservative NORAD policy. On the world scene in the East and the West, the stockpiles of nuclear weapons grew, with a resulting deep division of public opinion. This was matched by growing indecision in the Canadian political parties, and there was often a lack of firmness and clarity in both actions and statements of the Government. It appeared that after 1958, coordination of defence and foreign policy became unsatisfactory.

Cohen, therefore, concluded quite rightly that the 1963 debate should be viewed as the climax of a long development<sup>44</sup>. He considered that matters were brought to a head by the specific question:

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44 Ibid.

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. . . as to whether Canada has the right kind of role in the Alliance, if that role requires her to have nuclear weapons in Canada under NORAD, and for her air division and ground troops in Europe within NATO<sup>45</sup>.

He considered it regrettable, and one of the key difficulties, that neither the Government nor the opposition parties had been able to place before the public a sufficient quantity of accurate information so that a truly knowledgeable public debate could ensue.

With respect to NORAD he concluded that the Canadian role was logical and normal, due to space and geography. NORAD had been conceived and the warning lines established to meet the threat of the manned bomber. He could understand the confusion during the so-called "missile gap" of 1959-1961 when it was often assumed that bombers were obsolete, missiles were the real threat, and the defence program of NORAD was largely irrelevant. Confusion was confounded during this era by the Canadian Government deciding ". . . to install BOMARC's to protect the Montreal, Toronto and Ottawa Triangle as well as SAC (Strategic Air Command) bases to the South . . .<sup>46</sup>". This he felt added apparently obsolete fuel to the fires of the debate.

Although Cohen recognized the bomber as a still-respectable enemy, he thought that much of the argument over

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45 Ibid.

46 Ibid.

BOMARC's and interceptors nevertheless hinged on the belief that missiles had essentially replaced bombers. Thus whether the defence weapons had nuclear warheads seemed to him to be beside the point. He stated that serious students of the problem no longer felt that manned bombers were obsolete, but that most of the general public simply did not have deep enough knowledge to reach a proper national consensus.

Cohen's summation is clear and complete enough to give a good background against which to study the final arguments in the House of Commons before the vote on the motion of no confidence in the Government was taken.

The Leader of the Opposition spoke at length criticizing the Administration for its bungling, its indecision, and the contradiction and confusion in its defence policy which led to the resignation of its Minister of National Defence. He praised Mr. Harkness for his gallant efforts to clarify the ambiguous statements of the Prime Minister. He thought that Mr. Harkness, an honourable man, had no alternative but to resign. He thought this act had underlined the division between the Department of National Defence and the Prime Minister and his Secretary of State for External Affairs. As a result of this situation, contradictions had come up between Canada and the United States which could have been avoided by a Government with a sense of leadership and decision. He said that a Committee of the House on

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National Defence policy could have avoided this. He also said that the Prime Minister should be more careful in disclosing confidential negotiations with another country.

He pointed out that every other country in NATO except Canada had made its decision on nuclear weapons.

He answered a question from the Secretary of State for External Affairs by stating that his Party had changed its policy on nuclear weapons because the time had come to make a decision on the matter. This was indicated when the Minister of Defence had stated that the planes were with the squadrons and the missiles were on the stations. He felt the time had arrived to carry out the country's obligations.

He answered another question from Mr. Green by outlining the history of the acceptance of the NORAD Agreement by Canada:

1. Consideration by the Defence Committee under the Liberal Government before the election of 1957.
2. Decision by the Liberal Prime Minister to delay formal action until after the election.
3. Conservative Cabinet meeting in June 1957 where, after very brief discussion, the agreement was accepted, and has been in effect ever since<sup>47</sup>.

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<sup>47</sup> Lester Pearson, Op. Cit., p. 3404.

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Thereafter, on the following day, 5 February, the Prime Minister criticized the Leader of the Opposition for switching his position on nuclear weapons and for omitting this matter in his motion of no-confidence.

Later that day, after the Government lost two votes having to do with amending the supply motion, the House of Commons was adjourned for the day. On 6 February 1963 it was dissolved, and election day was set as 8 April 1963.

The climax was capped on 9 February when Pierre Sevigny, Associate Defence Minister, resigned from the Cabinet, saying he "could not agree with Prime Minister Diefenbaker's defence policy<sup>48</sup>".

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48 Al Palmer, "I'm P C Candidate -- Sevigny", The Gazette, Montreal, 15 March 1963.

CHAPTER V

CANADIAN NUCLEAR POLICY

or

The Great Nuclear Debate

1. Introduction

The period from 1957 to 1963 was a vibrant one in Canadian politics. One of the most hotly debated issues was the matter of what the national policy should be on nuclear matters.

The peaceful uses of nuclear power were not the immediate concern. The Chalk River installation was functioning well and a nearby newer model plant was being readied for additional uses.

However, Canada's position on nuclear weapons was a different kettle of fish. It had a history reminiscent of the slavery question a hundred years earlier in the United States. The arguments were based partly on fact, partly on political conviction, partly on rumor, with large portions of geographical or provincial leanings, prejudice and passions mixed in. Various political parties became particularly violent on the subject of nuclear weapons.

The usual occasion for a discussion beginning on nuclear weapons was the question of what nuclear weapons, if any, were necessary for NORAD. If any were required,

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who should control them and where should they be located for storage and for repair, and what country should, and could control the weapons. National sovereignty, military organization, international law and United States national law all became part of the tangle.

Before the matter cooled to a point where it could be handled as a normal issue, it had helped trigger the fall of the Conservative Party from power. As it turned out, the political parties in Canada took quite predictable stands on this matter and argued violently for years. In contrast, below the forty-ninth parallel, the United States had already determined that there was no choice for them but to try to stay out in front in the nuclear arms race of attack-and-defence until some type of observed and confirmed disarmament could be attained. Except for the abortive international agreement effort commenced in October 1958 for the cessation of nuclear tests, there was no major political action taken in the United States between the 1954 Amendment to the Atomic Energy Act of 1946, which allowed private interests to enter the field of atomic power, and the signature by the United States and the Soviet Union of the Nuclear Test Ban Treaty, which authorized only underground tests and which was ratified by both countries by 25 September 1963<sup>1</sup>.

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1 Information Please Almanac, 1964, p. 7-8, 181-190.

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## 2. The Position of the Cooperative Commonwealth Federation (CCF) Party

In the fall of 1957, the Cooperative Commonwealth Federation member from Rosetown Biggar stated that Canada should divert at least one-quarter of the amount Parliament was providing for defence appropriations to humanitarian efforts such as "technical aid" and the Colombo Plan. He considered that this would do more to remove threats of world-wide dictatorships of the communist or fascist types than all the stockpiles of warheads and missiles the Western nations could amass<sup>2</sup>. A few days later, when replying to a similar argument from the same speaker, the Minister of National Defence agreed that the causes of war should be removed if possible but that also a reasonable degree of security must be maintained<sup>3</sup>. This was, to some extent, the responsible reply of the Government to irresponsible criticism. However, the feeling of the mid-west area of the continent, Canadian and United States alike, that foreign entanglements and large armed forces are somewhat malum in se and suspect, were implied by the midwestern member of

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2 M. J. Coldwell, Cooperative Commonwealth Federation member from Rosetown-Biggar, Hansard, 26 November 1957, p. 1533.

3 George Pearkes, Minister of National Defence, Hansard, 5 December 1957, p. 1928.

Parliament. He became more direct on 5 December and suggested that the Government should set up a committee to examine the Defence Estimates and the establishment of NORAD. He stated that if this were not done, in the future, his party would move for a reduction in the estimates for National Defence<sup>4</sup>.

On the same day, Coldwell was supported by Johnson who suggested a reduction in defence expenditures. He felt that money spent on developing the Canadian interceptor aircraft known as the CF-105 ARROW and on the construction of what he considered to be obsolete radar lines, did not constitute effective defence. He thought that sometimes service personnel sought to maintain obsolete establishments. He suggested that in view of recent developments in thermonuclear weapons, it appeared that there was no longer a requirement for separate specialized roles and that the Government should consider integration of all the armed services under one command.<sup>5</sup>

In 1959 Herridge asked the Minister of National Defence if senior officials of the Canadian defence force

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4 Coldwell, Op. Cit., 5 December 1957, p. 1909-1910.

5 W. M. Johnson, Cooperative Commonwealth Federation member from Kindersley, Hansard, 5 December 1957, p. 1919-1921. Author's note: This integration of national military command did, in fact, take place in 1964-1965 at the headquarters level in Ottawa. It has since been gradually seeping down to lower levels.

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would be kept in ignorance as to the whereabouts of nuclear weapons in Canada<sup>6</sup>. The reply stated that Canadian officers would be kept informed on all matters affecting the carrying out of their duties<sup>7</sup>.

In November 1960 Herridge requested that the Canadian people be assured that there were no nuclear weapons stored in Newfoundland at bases leased by the United States or elsewhere in the province<sup>8</sup>. He was so assured.

On 29 December 1960, Herridge stated on behalf of the Cooperative Commonwealth Federation that his party was strongly opposed to the arming of NATO with nuclear weapons and to the arming of other countries with these weapons as well<sup>9</sup>.

On 31 January 1961, the Cooperative Commonwealth Federation member from Burnaby-Coquitlam asked leave to move the adjournment of the House under Standing Order 26 for the purpose of discussing a matter of urgent public importance, which he said was the unprecedented appeal of the

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6 H. W. Herridge, Cooperative Commonwealth Federation member from Kootenay West, Hansard, 27 February 1959, p. 1442.

7 George Pearkes, Minister of National Defence, Hansard, 27 February 1959, p. 1442.

8 Herridge, Op. Cit., 25 November 1960, p. 195.

9 Ibid., 29 December 1960, p. 966.

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Minister of National Defence to officers of the armed services to fight "ban-the-bomb" movements in Canada<sup>10</sup>.

The Minister rose on a question of privilege. He said that he had attended a mess dinner at HMCS Carleton and made brief remarks. However, he had not mentioned nuclear armaments and the last thing in his mind or, he was sure, the minds of the officers present, was that he was inviting reserve officers to get into politics in this matter<sup>11</sup>.

The Speaker ruled that the matter was not of urgent public importance and did not ask whether the Member had leave of the House to move adjournment. This incident did, however, reveal the mood of the Cooperative Commonwealth Federation Party in taking such a step based on what turned out to be an unsubstantiated newspaper article.

A week later Mr. Regier asked the Prime Minister whether the Canadian Government viewed with favor the efforts of the many "ban-the-bomb" movements which existed in Canada<sup>12</sup>. The reply stated that the government believed in disarmament, but it was only realistic to also maintain defences.

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10 E. Regier, Cooperative Commonwealth Federation member from Burnaby-Coquitlam, Hansard, 31 January 1961, p. 1569-1570.

11 Douglas Harkness, Minister of National Defence, Hansard, 31 January 1961, p. 1569-1570.

12 E. Regier, Op. Cit., 7 February 1961, p. 1800.

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Only two days thereafter, Mr. H. Argue pointed out a news report, which was denied by the Minister of National Defence, that United States nuclear weapons were stored at Goose Bay, Labrador, among other bases in Canada. Argue went on to ask about United States bombers carrying nuclear weapons over Canadian territory. He was referred to two statements given on June 3, 1958 and March 17, 1959<sup>13</sup>.

The following month he said that the Cooperative Commonwealth Federation opposed and would continue to oppose any move to provide atomic weapons for NATO and that Canada's role in NATO should be reviewed. He referred to a resolution passed at the last Cooperative Commonwealth Federation convention in Regina in August 1960 which had advocated:

Since NATO has become a purely military organization, Canada should immediately withdraw from NATO in favor of promoting peaceful economic and cultural activities through agencies of the United Nations<sup>14</sup>.

The reply pointed out that NATO had preserved the freedom of Canada and the Western World and that the Government would not accept the Cooperative Commonwealth Federation invitation to dishonour Canada's obligation to this treaty.

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13 H. Argue, Cooperative Commonwealth Federation member from Assiniboia, Hansard, 9 February 1961, p. 1875-1876.

14 Ibid., 28 March 1961, p. 3443-3444.

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Lester Pearson, Leader of the Opposition backed the Government position on this matter<sup>15</sup> in a rare moment of unity in nuclear affairs.

In April, Mr. Argue stated that the Cooperative Commonwealth Federation was the only group which had reached a firm decision regarding nuclear weapons and that they were opposed to their being in the hands of NATO nations<sup>16</sup>.

In September, Regier returned to the attack. He said the Cooperative Commonwealth Federation would support NATO as a brake against communist expansion but not to start a nuclear war. Therefore he was against NATO acquiring nuclear weapons. He repeated his Party's aversion to Canadian Forces having nuclear weapons either at home or abroad. He considered that Canada could not increase her useful contribution by adding to the existing number of nuclear weapons<sup>17</sup>.

On 12 September 1961, in the Defence Estimates debates, Pitman, speaking for the New Democratic Party, (formerly the Cooperative Commonwealth Federation) said that Canada's Defence and External Affairs policies must be dovetailed. Defence, he said, was four years behind the times,

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15 Pearson, Op. Cit., 28 March 1961, p. 3447.

16 H. Argue, Op. Cit., 13 April 1961, p. 3607.

17 E. Regier, Op. Cit., 11 September 1961, p. 8166.

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planning to contend with manned bombers, when long-range ballistic missiles were what would be used any time a war began in the next few years. In an all-out war there would be no defence for North America, and Canada could play virtually no role in the realm of deterrence. He thought, with respect to the "nuclear club," that Canada could make a real contribution by keeping nuclear weapons out of the country. He wanted reduction in Defence expenditures, withdrawal from NORAD, and the doing away with the BOMARC missile. On the other hand, he praised Mr. Green, Secretary of State for External Affairs, and supported his work towards disarmament. He further advocated establishing a peace research institute subsidized by the Government to work with Defence and External Affairs in carrying out research into the ways and psychology of stopping war<sup>18</sup>.

Nine months later, in reply to the Speech from the Throne, H. E. Winch criticized Canada for supporting a motion in the United Nations for the non-expansion of the "nuclear club" while maintaining forces with four weapons which had a nuclear potential. He considered the Government guilty of conscious deliberate political dishonesty, unless it actually had no intention of ever acquiring nuclear

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18 W. Pitman, New Democratic Party member from Peterborough, Hansard, 12 September 1961, p. 8233-8236.

warheads. In the latter case, he said they were wasting hundreds of millions of taxpayers' dollars<sup>19</sup>.

On the following day, Regier of the same party, branded the nuclear weapons policy of the Government one of confusion. He said they were deliberately intending to delay announcement of their policy until after the next election, and that in their irresponsibility they had even refused to place orders for conventional weapons to supply the Bomarc missile squadrons. He also contended that Canada had nuclear weapons but that the Government lacked the "honesty and the guts" to tell the Canadian people<sup>20</sup>. This was promptly denied by the Government.

In April, during the debate on Supplementary Estimates for the Department of External Affairs, Herridge, speaking now for the Party under its new title of New Democratic Party, said that they were opposed to nuclear arms for Canadian Forces and advocated withdrawal from NATO if that organization received nuclear weapons. He opposed participation in NORAD because the BOMARC's were likely to have nuclear warheads. He concluded by saying that the New

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19 H. E. Winch, New Democratic Party member from Vancouver East, Hansard, 24 January 1962, p. 168-169.

20 E. Regier, Op. Cit., 25 January 1962, p. 202-203.

Democratic Party would propose a treaty to establish a "non-nuclear club" pledged against the use or possession of nuclear weapons<sup>21</sup>.

In October 1962, R. W. Prittie, New Democratic Party, raised questions on improper statements by senior military officers. On 5 October, the Associate Minister of National Defence replied that Air Marshal Slemon's recent statements were consistent with those made by General Kuter the previous September in Toronto, and approved by the Minister of National Defence and were also consistent with the Minister's statement appearing in the August 25, 1962 issue of MacLean's Magazine. He contended that it was the conclusion only of the correspondent that Canada's non-nuclear air defence weapons would do more harm than good in an all-out nuclear attack on the continent. Therefore, the allegations had not been founded on fact<sup>22</sup>.

In December, T. C. Douglas, Leader of the New Democratic Party, noted that the vote proposed on Interim Supply was asking the House to vote money for defence without opportunity to discuss and debate the Government's defence

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21 H. W. Herridge, New Democratic Party member from Vancouver East, Hansard, 24 January 1962, p. 168-169.

22 R. W. Prittie, New Democratic Party member from Burnaby-Richmond, Hansard, 5 October 1962, p. 239.

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policy. He feared that the pressure on NATO to become a nuclear power would force Canada into the "nuclear club". He thought that if there were to be a governmental decision, it should be made only after full debate so that all parties could express their views, rather than have to accept the decision as a fait accompli.

He considered that the meager military gains from NATO becoming a nuclear power would be overshadowed by the tragic consequences of increasing the membership in the "nuclear club". He thought that nations like Canada could help lessen the tension and assist toward nuclear disarmament and eventually general disarmament. He suspected that the Government had led the country "down the garden path" and that there would be no choice except either to become a member of the "nuclear club" or to withdraw from NATO<sup>23</sup>.

Lewis, speaking for the New Democratic Party during the no-confidence debate on 4 February 1963, said that the question of nuclear arms was for Canada the most important issue of the day. Canada should reject nuclear arms because a nuclear war would mean annihilation. Instead, Canada's contribution towards world peace should be non-nuclear, such as a conventional force for NATO. He branded as nonsense the press release of the State Department of the United

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<sup>23</sup> T. C. Douglas, Leader of the New Democratic Party, Hansard, 18 December 1962, p. 2771-2773.

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States which said that if Canada acquired nuclear weapons the "nuclear club" would not, thereby, be increased, since the United States intended to keep control over such weapons. He considered that the results, in fact, would be different from that alleged by the United States. He concluded by stating that there was no difference between the approved nuclear policies of the Liberal Party and the Government<sup>24</sup>.

On the following day, the 5th, Douglas criticized the Government for failure to be clear and decisive on the acquisition of nuclear weapons. However, he stressed that the delay in coming to a decision should not be allowed to obscure the steady movement of the Government toward acquiring nuclear arms. He thought that the negotiations to make nuclear arms available for the BOMARC missile and the VOODOO air defence aircraft meant that whether the warheads were physically brought into Canada or not, they would still be available. He pointed out that Prime Minister Diefenbaker had never repudiated Minister of Defence Harkness' statement that if the coming NATO Ministerial meeting in May should reaffirm a nuclear role for Canada, then Canada would equip her forces to discharge the country's obligations. He concluded by maintaining that the only difference between the

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<sup>24</sup> D. Lewis, New Democratic Party member from York South, Hansard, 4 February 1963, p. 3415-3419.

Conservative Government and the Liberal Opposition was that the Liberals were ready to accept nuclear weapons immediately, while the Conservatives were delaying final acceptance, but were undoubtedly committed to take them<sup>25</sup>.

Shortly thereafter the House divided on the amendment to the amendment of the supply motion by Mr. Thompson, Leader of the Social Credit Party, and thereafter on the amendment by the Leader of the Opposition.

In both cases the vote went against the Government by a count of 142-111.

The House of Commons then adjourned for the day. On the following day, 6 February 1963 the House was dissolved, and election day was designated 8 April 1963.

### 3. The Position of the Social Credit Party

On 29 March 1957, Shaw, of the Social Credit Party, argued for adequate defence at lesser cost, pointing to figures that Canada was spending thirty-five percent of its tax and non-tax revenue on national defence while the United States spent eleven percent and Great Britain only nine percent of this revenue. He considered that the Department of

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<sup>25</sup> T. C. Douglas, Op. Cit., 5 February 1963, p. 3460-3461.

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National Defence contributed, more than any other, to the inflationary conditions in Canada<sup>26</sup>.

On 4 February 1963, in speaking to the nation of no confidence in the Government, R. N. Thompson said that the press statement by the State Department of the United States and the resignation of the Conservative Minister of Defence, were two striking examples of the confusion, indecision and postponement of policy on national defence on the part of the Government. He considered that the Government had not lived up to its responsibilities and that a Parliamentary Committee headed by the resigned Minister of National Defence, might study the matter and clear it up. He concluded by reading out the Social Credit Party's amendment to the amendment of the Leader of the Opposition. This stated, in part, that the Government had failed to give a clear statement of its national defence policy and did not have the confidence of the Canadian People<sup>27</sup>.

The next day Gregoire, speaking for his Party, criticized the Leader of the Opposition for first accepting atomic weapons and then later trying to get rid of them. He

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26 F. Shaw, Social Credit member from Red Deer, Hansard, 29 March 1957, p. 2847.

27 R. N. Thompson, Social Credit member from Red Deer, Hansard, 4 February 1963, p. 3410-3414.

implied a contradiction in Pearson's calling for the arming of Canada's NATO forces with nuclear weapons and then a few minutes later saying that NATO should not be allowed to become a nuclear power<sup>28</sup>.

In general terms the position of the Social Credit Party was close to that of the Cooperative Commonwealth Federation Party.

#### 4. The Position of the Conservative Party

Prior to winning the election of 10 June 1957, the Conservative Party, as the Opposition, showed interest in the study on dispersal of industry in order to render it less vulnerable to nuclear attack in the event NORAD was not one hundred percent effective as a defence<sup>29</sup>.

During this same period, Pearkes agreed with Shaw of the Social Credit Party that defence expenditures should be reviewed, but took the more conservative position that with the changing world situation, and the introduction of many new weapons, he did not see how there could be any substantial reduction in the Defence Estimates. He went on to say that in the first phase of a major war, he did not think that the

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28 G. Gregoire, Social Credit member from Lapointe, Hansard, 5 February 1963, p. 3455-3456.

29 W. Dinsdale, Progressive Conservative member from Brandon-Souris, Hansard, 29 March 1957, p. 2816.

Russians would attempt to carry out a nuclear attack on Canada. He added that the use of nuclear bombs was bound to meet with retaliation, and since the Russians were reaching parity with the West, it would practically mean a suicidal war for both sides. He recalled the earlier statement of Prime Minister St. Laurent that in a war, Canada would be in the path of any attack against the United States and that Canada had taken adequate steps to safeguard her residents against such attack<sup>30</sup>.

After coming into power, Prime Minister Diefenbaker, in answer to Lester Pearson, related that in June 1955, the United States and Canada agreed to make available to each other the atomic information considered necessary to develop defence plans, train personnel in defence, and evaluate enemy atomic capabilities. He added that Canadian military personnel had participated in United States exercises involving thermonuclear explosions. The only restriction in defence collaboration was the United States law concerned with the composition, construction, and manufacturing techniques of nuclear weapons. He thought that all members realized that manufacturing nuclear weapons was not an urgent defence requirement for Canada<sup>31</sup>.

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30 George Pearkes, Progressive Conservative member from Esquimalt-Saanich, Hansard, 30 March 1957, p. 2905.

31 J. G. Diefenbaker, Prime Minister, Hansard, 13 November 1957, p. 1059.

In December 1960, Mr. Harkness, then Minister of Defence, stated that a decision had not been made by the Government on whether to acquire nuclear warheads. When he was asked to comment on a news dispatch in the Ottawa Citizen of November 2, that he had said that not having nuclear arms was stupid, Harkness said that he had not made such a statement<sup>32</sup>. However, it was on this matter some two years later that he broke with his Prime Minister.

It should be noted here that when a similar question had been asked a month earlier, the Prime Minister had referred Mr. Pearson to previous statements made in the House on January 19, 1959, February 20, 1959, January 18, 1960, February 9, 1960, July 4, 1960 and July 14, 1960<sup>33</sup>. The question had become a running sore for the Government, and no relief was in sight. The uncertain temper of Parliament, the suspected temper of the public, as thought to be evinced by the comments of the Cooperative Commonwealth Federation members, the views of Mr. Green, the Secretary of State for External Affairs, and probably the early upbringing of the Prime Minister among the isolationist and semi-pacifistic

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32 Douglas S. Harkness, Minister of Defence, Hansard, 20 December 1960, p. 970-971.

33 J. G. Diefenbaker, Prime Minister, Hansard, 23 November 1960, p. 114.

influences of the center of the continent--all tended to restrain the Government from taking strong action on the matter. Efforts to find a solution were delayed from month-to-month and then from year-to-year.

In February 1961, the Prime Minister described the position of the Progressive Conservative Government as believing in disarmament and in its attainment, but he added that until it had been attained, it appeared realistic to accept the fact that defences had to be maintained<sup>34</sup>.

A month later, Mr. Harkness, when commenting on a statement that the Soviet Union had seventy-thousand nuclear bombs, suggested that such figures were pure guesswork on the part of Dr. Hugh Keenleyside, and that the important matter was how many they might be able to deliver in an attack<sup>35</sup>.

Mr. Green added later that the Government was considerably encouraged that the United States appeared to be going to put forward to the Soviet Union some new and far-reaching proposals regarding cessation of testing nuclear weapons<sup>36</sup>.

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34 J. G. Diefenbaker, Prime Minister, Hansard, 7 February 1961, p. 1800.

35 Douglas S. Harkness, Minister of National Defence, Hansard, 21 March 1961, p. 3172.

36 H. C. Green, Secretary of State for External Affairs, Hansard, 21 March 1961, p. 3172.

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In May the Minister of National Defence gave a speech to the RCAF Association in Winnipeg in which he tended inter alia to answer the gist of the Cooperative Commonwealth Party arguments from the mid-western area. In speaking of deterrence of war, and the effect of will and determination as a part of deterrence, he mentioned complacency and people who could not be bothered. He reminded them that:

. . . we have continued to enjoy our freedom and our high standard of living because we have been working in concert with our allies to preserve peace. We cannot take peace and freedom for granted; if we do, we may lose both. Complacency is a creeping evil that could lull us into oblivion<sup>37</sup>.

In External Affairs debate in September, W. B. Nesbitt criticized the New Democratic Party's stand on NATO and then supported his Government's policy that nuclear weapons should be acquired if necessary<sup>38</sup>. This statement was less carefully guarded than the statements made by the leaders of the party in person.

That same day, L. Regnier criticized the former Liberal Government for doing nothing about civil defence, and was pleased that his Government was training one hundred

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37 Douglas Harkness, Minister of Defence, mimeographed copy of a speech to the annual meeting of the RCAF Association at Winnipeg, reproduced by Director of Public Relations, RCAF, Ottawa, 19 May 1961, p. 16.

38 W. B. Nesbitt, Progressive Conservative member from Oxford, Hansard, 11 September 1961, p. 8162-8163.

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thousand men for this purpose<sup>39</sup>. It might be noted here that this training effort was useful as part of the deterrent to enemy attack.

On the following day, Harkness opened the debate on his Defence Estimates. He reviewed the Soviet threat which he said required counteraction on all fronts including the military, and he stated the primary objectives of the Canadian defence policy as (1) maintaining peace by preventing a third global war and (2) preventing Canada from subjection by a foreign power. He stressed that the important part of the NATO philosophy was the reliance on the United States and United Kingdom retaliatory nuclear forces, and that while Canada did not contribute directly to these, she did make an important contribution by ensuring that the major portion of the forces remained effective. She did this through NORAD.

He went on to say that a nuclear capability for the Canadian Forces might be required in order to maintain the credibility of the deterrent. Also, if the worst happened, they would be needed to provide effective defence against Soviet aggression. Therefore, four weapons systems having a nuclear capability had been acquired so that they would

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<sup>39</sup> L. Regnier, Progressive Conservative member from St. Boniface, Hansard, 11 September 1961, p. 8179.

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be on hand and so that the Canadian troops could be trained to use them should the occasion arise<sup>40</sup>.

In September of 1961, during the debate on the Department of National Defence Estimates, and in reply to many criticisms, the Minister of National Defence stated that what the Liberal member, Mr. Hellyer, had sought to convey as the general policy and the strategy of the United States, was not very close to the facts. He stated that the four weapons which Canadian forces had which could use nuclear warheads: the BOMARC, the HONEST JOHN, the F-104 and the VOODOO had all been completely funded in previous budgets of the United States, and also that not one item relating to the air defence of North America had been recommended for deletion from the U. S. budget by the President of the United States. He added that the Russians had a very limited number of intercontinental ballistic missiles capable of reaching North America with a nuclear warhead, and that their chief means of delivery was still by manned bomber<sup>41</sup>. Later he added that United States bombers carry nuclear weapons over Canada only with prior permission of the Canadian Government<sup>42</sup>.

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<sup>40</sup> Douglas Harkness, Op. Cit., 12 September 1961, p. 8221-8223.

<sup>41</sup> Douglas Harkness, Minister of National Defence, Hansard, 13 September 1961, p. 8313-8314, 8317.

<sup>42</sup> Ibid. p. 8318

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On the following day, in reply to a discursive criticism by Lester Pearson, Harkness criticized the preoccupation of the Leader of the Opposition with the subject of the acquisition of nuclear weapons. He affirmed that the nuclear weapon is only one type of weapon which is used only in certain circumstances, and that it should not be considered the end-all and be-all of defence policy. He reiterated that Canada's defence depended on belonging to the NATO Alliance, maintaining the NORAD agreement, and contributing to the peaceful efforts of the United Nations.

In answering the criticism reference the BOMARC, the CF-104 and the HONEST JOHN rocket, he pointed out that considerable time ensued after placing an order for any such weapon before it was produced and men trained to operate it. It was wise and prudent to order them whether they were ever to be armed with nuclear warheads or not. If the decision were made later, Canada would be in a position to implement the decision without further great delay. He continued in answer to criticism that protection against the manned bomber was really no protection for Canada, that with such protection it was unlikely that manned bombers would ever fly over Canada to drop bombs. This deterrent, in itself, constituted a great protection both for Canadian cities and the entire population<sup>43</sup>.

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43 Ibid., 14 September 1961, p. 8355-8358.

Reference NATO wartime difficulties in using nuclear weapons, he believed there was some hope of providing full NATO control. He said he agreed with the Leader of the Opposition on the necessity of building up the conventional strength of NATO--witness the recent Canadian increased contribution<sup>44</sup>.

In defending the Throne Speech on 22 January 1962, the Prime Minister said that the Government had enunciated its defence policy with respect to nuclear arms as far back as 1959 and had continued that policy<sup>45</sup>.

#### 5. The Position of the Liberal Party

In the fall of 1958 the Leader of the Opposition stated that there was a great difference between a megaton hydrogen bomb and a warhead for ground-to-air defensive missiles such as the BOMARC which might be valuable for defence against aggression. He also stated that Canadian NORAD squadrons should be equipped with nuclear weapons to place them on the same basis as United States squadrons in the same organization. He then asked whether there were negotiations under way to permit exchange of nuclear weapons with Canada in the same manner as the United States

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<sup>44</sup> Ibid., p. 8361-8362.

<sup>45</sup> J. G. Diefenbaker, Op. Cit., 22 January 1962, p. 65.

and the United Kingdom had done. He referred to the announcement that the United Kingdom and the United States were willing to suspend nuclear tests for a period of one year. He wanted the other nations, not already manufacturing such weapons, to agree that in the future they would not become manufacturers<sup>46</sup>.

In the summer of 1959, Martin brought up the matter of civil defence. After the Minister of National Health and Welfare, as the spokesman of the various ministers concerned, had answered at length that weapons were progressing from manned bombers to intercontinental ballistic missiles, that United States studies and Defence Research Board studies had recently agreed that developing light reasonably effective shelters, particularly against fallout, now appeared less costly and more feasible than had previously been thought, and that shortly it would be possible to discuss evacuation versus shelters with provincial authorities, Martin replied that the answer was extremely disappointing. The House knew no more than they did a year and a half ago. He wanted to know what steps had been taken to protect against the manned aircraft and the ICBM<sup>47</sup>.

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<sup>46</sup> Lester Pearson, Op. Cit., 23 August 1958, p. 4012-4014.

<sup>47</sup> P. Martin, Liberal member from Essex East, Hansard, 18 July 1959, p. 6365.

In the Spring of 1960, the Leader of the Opposition stated that he had pleaded, before the House met in January, that a defence committee be set up to examine the whole subject of defence in this changing nuclear age. He desired examination of the type missiles to be employed, the acquisition of nuclear weapons, the policy on continental air defence, the interceptor squadrons of CF-100's which were obsolete in 1957, the role of the Canadian air division in NATO, and the integration of the services<sup>48</sup>.

In the debate concerning the Department of National Defence Estimates on 12 September 1961, Mr. Hellyer stated that in his opinion Canada was being prepared for the introduction of atomic weapons into the country, and that the Liberal Party considered atomic weapons unnecessary at this time since they could not add anything to Canadian security or provide protection for the Strategic Air Command of the United States. On the other hand, in Europe, he would not object to Canadian forces being equipped with atomic weapons of the defensive type provided they came under NATO collective control<sup>49</sup>.

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<sup>48</sup> Lester Pearson, Leader of the Opposition, Hansard, 17 March 1960, p. 2184-2191.

<sup>49</sup> P. Hellyer, Liberal member from Trinity, Hansard, 12 September 1961, p. 8230-8231.

Later during the debate on Defence Estimates, the Leader of the Opposition opened his speech, as had other speakers, by requesting that the Government state whether it would get nuclear weapons for the Canadian forces. He also asked whether Canada was committed to accepting the use of nuclear weapons under the control of its own government with a veto exercised by another government. He continued that each member of NATO must be able to equip itself with weapons of modern war. Failing this, facing the enemy with bows and arrows just does not make sense. He considered the basic issue to be whether Canada needed certain nuclear weapons to carry out her obligations to her allies. If there had been no decision on nuclear weapons, the Government was guilty of irresponsibility in spending millions of dollars on weapons requiring nuclear warheads to achieve their maximum effectiveness<sup>50</sup>. This clearly applied to the NORAD BOMARC's and VODOO's as well as to the European forces.

Later that day, he proposed collective nuclear control for the NATO European forces, a type of control separate from that of the conventional forces. This he hoped would tend to cause commitment of the conventional forces first to meet any aggression and avoid the awful temptation

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<sup>50</sup> Lester Pearson, Op. Cit., 14 September 1961, p. 8342-8345.

to start a nuclear war when conventional arms might turn out to be adequate. This reasoning sounds very much like the 1964-1965 NATO strategy debates in which the United Kingdom, United States and Germany were the principal advocates of a policy of this type. Pearson explained that if weapons were in Canadian hands under this scheme, it would not be extending the area of the nuclear club because three members of that club would be giving up their own national control to a collective organization<sup>51</sup>. He appeared unsure, upon comparison with his statements in different sections of his lengthy argument, as to whether he ultimately preferred United States veto authority for use of the nuclear weapons, or some collective control, and he was concerned that if Canada accepted nuclear warheads for its NORAD BOMARC's, Canada would be under a veto for the use of its own weapons<sup>52</sup>.

Minister of Defence Harkness replied to this long criticism that if there were any confusion with regard to defence policy, it was in the Opposition's defence policy rather than the Government's. From the arguments exchanged, the answer appeared well justified<sup>53</sup>.

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51 Ibid., p. 8350-8352.

52 Ibid., p. 8342-8353

53 Douglas Harkness, Minister of Defence, Hansard, 14 September 1961, p. 8355.

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On 22 January 1962, the Leader of the Opposition spoke in reply to the Speech from the Throne. He renewed vigorously the Liberal attack on Canadian defence policy or --as he thought--the lack of a policy, particularly as to whether Canada was to have nuclear weapons. He pointed out that the Throne Speech had omitted this matter, thereby confirming the shocking refusal of this government to make up its mind. He said that the Minister of Defence agreed that nuclear warheads alone make sense for some weapons now on hand. Yet other statements of policy say that no decision will be made so long as the disarmament conference is proceeding, as long as there might be a nuclear test ban, or as long as the international situation does not deteriorate.

He pointed out that if an emergency developed there might not be much time to decide. It would take only seventeen to twenty minutes for a missile to reach North America, leaving no time to move warheads across the border to North Bay. He labelled this a policy of irresponsible confusion and concealment<sup>54</sup>.

A few days later, Chevrier criticized the Government for its contradictions in the field of defence in moving resolutions on disarmament and abolition of nuclear tests at

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<sup>54</sup> Lester Pearson, Leader of the Opposition, Hansard, 22 January 1962, p. 41-42.

the United Nations, while simultaneously spending six hundred million dollars to buy armaments useless without nuclear warheads<sup>55</sup>.

During the debate on the Throne Speech, it became more obvious than ever before that one reason for the confusion was the use of terms such as "a nuclear power" and "the nuclear club" without any agreement on what they meant and usually without any evidence that the users or the listeners were concerned about exact meanings. As Arthur Blakely stated it, in early 1962, the Liberals seemed to want to keep Canada from becoming a nuclear power. Did that mean a nation capable of delivering nuclear warheads to enemy cities<sup>56?</sup> Probably not. There was no plan or intention on any one's part for that. But what of the "nuclear smallarms" such as the HONEST JOHN? Would possession of such weapons put Canada in the nuclear club? If so, they would merely join the majority of the NATO allies, not a very radical move by any standards.

Blakely considered that the Liberals had previously held that Canada did not need nuclear smallarms on Canadian soil. If they were needed by the Canadian forces in Europe, they should be under some form of international control such

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<sup>55</sup> L. Chevrier, Liberal Member from Laurier, Hansard, 22 January 1962, p. 41-42.

<sup>56</sup> Arthur Blakely, "Mr. Pearson and the Atom", The Ottawa Citizen, 23 January 1962, p. 6.

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as control by NATO itself.

Sometime later, Blakely said that only a few months previously Mr. Pearson had suggested at a Quebec City press conference that perhaps it might be necessary to have nuclear smallarms on Canadian soil, but if so they must be under exclusive control of the United States. Blakely thought that Pearson had been very cautious in his wording of the thought, but Blakely considered that in clear language it meant what is stated above.

By January 1962, he felt that the Liberals were more used to their new position on nuclear arms and would answer with candor as the Honourable J. W. Pickersgill had recently at a tape-recorded press conference in Windsor when he was asked whether he favored having nuclear warheads at Canada's disposal:

I follow the Liberal policy--if we must have them, they should be under the exclusive control of United States. The moment Canada becomes a nuclear power, Poland will become a nuclear power--and probably Czechoslovakia too. We can't have nuclear warheads under exclusively Canadian control--the U.S. quite properly wouldn't allow that.

International or joint control weren't so much as mentioned<sup>57</sup>.

Twice on 29 January the Government deemed that harassing questions by the Liberals were either out of order

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<sup>57</sup> Ibid., Quoting J. W. Pickersgill, Liberal member from Bonavista-Twillingate.

or not worthy of reply: when Martin said that there was now a report that the three-power nuclear test discussions at Geneva were being terminated and, therefore, would not this cause the Government of Canada to state unequivocally its policy on possession of nuclear arms<sup>58</sup>; and when Hellyer asked whether it was the policy of the Canadian Government to equip its Armed Forces with unarmed missiles<sup>59</sup>.

In February Hellyer said that the question was becoming more urgent. Canada had by then acquired its first F-101 interceptors, had taken over operational control of the North Bay BOMARC station, and had sent an HONEST JOHN battalion to Europe. He specified that in each case a decision should have been made as to warheads. It had become known that no conventional-type warheads had even been designed for Canada's weapons, let alone become readily available. He said that the situation was ludicrous. The Government had spent a lot of money for weapons now operational except for being unarmed, and that more money was still being spent for further weapons systems in the same category.

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<sup>58</sup> P. Martin, Liberal member from Essex East, Hansard, 29 January 1962, p. 304.

<sup>59</sup> P. Hellyer, Liberal member from Trinity, Hansard, 29 January 1962, p. 304.

He pointed out that this lack of decision was extremely frustrating to Canada's allies, specifically at that time to the United States Armed Forces and to the European allies as well. If a decision were made to refuse nuclear warheads, at least the allies could make necessary adjustments; if the warheads were to be accepted, this knowledge would be much appreciated. However, he felt that no decision at all was incomprehensible and that Canada had become the laughing stock of the world.

He further criticized the argument that the decision should be deferred while disarmament discussions were taking place. Unless a time limit were placed on this deferral, he felt that the proposal made no sense<sup>60</sup>.

The Liberal Party continued their campaign in this vein until the elections of 1963, and--in view of the election results--with apparent success.

## 6. An Overview

In looking back over the era just prior to the 1963 elections, the question of nuclear weapons in NORAD, or with Canadian troops in Europe, loomed as one of the major and most touchy of all political topics. The milieu was complicated by the related sensitive matter of how much influence

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60 P. Hellyer, Op. Cit., 20 February 1962, p. 1103-1104.

the United States did have, or should have, on Canada in general and on Canadian politics in particular.

Any attempt to state in clear brief terms the apparent attitudes of the political parties on the nuclear question would appear to be oversimplifying a complicated and confusing issue. Within political parties there were deep divisions of opinion which caused ruptures fully as wide as those between different parties. To some people the question was as fundamental as to be even a matter of conscience.

However, in order to reach for an understanding of the era, insofar as party attitudes and positions could be sorted out, they did appear to form at least a semblance of a pattern. The Cooperative Commonwealth Federation, later the New Democratic Party, seemed to be quite doctrinal and claimed to be the only party which had a clear nuclear policy. Its members spoke almost with a single tongue to the effect that NATO should not have nuclear weapons and that Canada should not join the "nuclear club" but should have only conventional forces. They considered that the Conservative government was probably guilty of conscious deliberate political dishonesty on the matter of Canada's acceptance of nuclear weapons.

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The Social Credit Party position was close to that of the Cooperative Commonwealth Federation. They were anti-nuclear and considered that the money which would be necessary for the purchase of nuclear weapons could be far better spent on other projects.

The Progressive Conservatives, as the party in power, did not feel that they should comment as freely as other parties, and some members tended to take refuge behind the concept that they were "responsible" and would speak out when the final governmental decisions were made. On the occasions when members did speak, it was not with a single voice. Sometimes this was because of personal conviction as in the division between Prime Minister Diefenbaker and his Minister of National Defence, Douglas Harkness, who felt that Canada was committed to accept nuclear weapons and should accept them quickly so that the defence of North America would not be flawed by inadequate weaponry in Canada's defence lines. Occasionally, it also appeared that the Party would test public reaction with a trial balloon statement by some minister. Overall, the Progressive Conservatives did seem to be guilty of what they were frequently

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accused. They did not present a clear policy on nuclear matters. They seemed to change policy from time to time, depending on who was speaking. They did delay making a decision on accepting nuclear weapons for several years, with a general resultant effect of confusion, indecision and ultimate serious division within the party.

Lastly, the Liberals found it advantageous to be the Opposition party. There was not the same pressure for them to clarify their position. They could take soundings rather freely until shortly before the crisis which led to the general election. Whichever position the Conservatives took, the Liberals could criticize. If a gradually emerging Liberal pattern could be detected in the early 1960's, it would appear to be a slow coalescing toward acceptance of nuclear weapons, initially under strict United States control. Pearson and Hellyer seemed to express a growing conviction that Canada had, in effect, committed herself by purchasing weaponry which required nuclear warheads to be effective; and they pushed with ever increasing strength to try to force the Conservatives to make a final governmental decision.

## CHAPTER VI

## THE BOMARC MISSILE CONTROVERSY

A study of the Great Nuclear Debate of Canada and the Party struggles and infighting connected with it discloses that the BOMARC Missile System was so central to the main controversy that it should be accorded separate consideration. The missile system consisted of winged anti-aircraft missiles<sup>1</sup> and a long-range electronic guidance system.

Although there had been much talk at earlier dates, serious construction work got underway in 1959.

In June of that year, in reply to a question by the Leader of the Opposition, the Minister of National Defence stated that a start had been made on the construction of a BOMARC station near North Bay. He later added that a second area around Mont Laurier was under consideration for the other site. (This second base was finally built at La Macaza.)

Mr. Pearson then continued by asking about Canada's policy in the event that the United States tests proved that this weapon was not effective. (The effectiveness of the BOMARC was also a matter of debate in the United States forces at this same period. Many of the Army anti-craft representatives rated the BOMARC low, considered it

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1 See photograph on following page.



**CANADIAN BOMARCS--Adding to the defense of North America's industrial and population centers are two squadrons of Bomarc B ground-to-air missiles of the Canadian Armed Forces Air Defence Command. The U.S. Air Force Air Defense Command provides six Bomarc squadrons. All are under the operational control of NORAD for the defense of this continent against manned bomber attack. The Canadian squadrons--at North Bay, Ontario, and LaMacaza, Quebec--are controlled from an underground SAGE center at North Bay. The nuclear capable Bomarc B has a range of 400 miles, flies at three times the speed of sound, and can home on targets at altitudes above 70,000 feet.**

**(NORAD PHOTO)**

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obsolescent; while some of the Air Force officers argued that it had its place in the overall scheme and was worth its expense.) Minister of National Defence Pearkes pointed out that the complete development was being carried out by the United States. If the tests proved it ineffective, Canada would not carry on with the project. He added pointedly that under the previous administration the development of the SPARROW Missile had been continued after the United States had found it to be ineffective.

Mr. Pearson then wondered aloud whether the expenditures on the BOMARC bases should be delayed pending proof of the value of the weapon<sup>2</sup>. The Minister thought it a wise precaution to be ready to receive the weapon as soon as it was made available. He understood that the BOMARC "B" would be made available to the Royal Canadian Air Force in 1961 and that it would take from eighteen to twenty-four months to construct a BOMARC base<sup>3</sup>.

Two days later, in an apparent attempt to be helpful, a Liberal Member suggested that if the BOMARC should prove inefficient for defence, the Postmaster General might be able to use it for the transportation of mail<sup>4</sup>.

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<sup>2</sup> L. B. Pearson, Leader of the Opposition, Hansard, 8 June 1959, p. 4413-4414.

<sup>3</sup> G. Pearkes, Minister of Defence, Hansard, 8 June 1959, p. 4414.

<sup>4</sup> A. Denis, Liberal Member from St. Denis, Hansard, 10 June 1959, p. 4520.

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In January 1960 a member of the Cooperative Commonwealth Federation stated that his Party felt there could be substantial reduction in defence spending. He thought that both the former Liberal administration and the Present Conservative Government had been wasteful. He considered that the BOMARC would prove to be a waste of money and an "inconsequential addition to Canada's defence<sup>5</sup>".

On the following day it was learned that the BOMARC, unlike the ground-to-ground Lacrosse missile, would not be tested at Fort Churchill<sup>6</sup>.

On 26 January, Argue pressed the point further by noting a report that during the next thirty days the United States was to decide whether to install BOMARC missiles. He asked whether the Canadian Government was re-examining its position on this question<sup>7</sup>. Pearkes answered that Canada would not automatically follow the United States policy, but would discuss with the United States the implications of any changes Canada decided on, in view of the defence agreements. He added that current information from the Secretary

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5 H. Argue, Cooperative Commonwealth Federation Member from Assiniboia, Hansard, 20 January 1960, p. 151.

6 G. Pearkes, Minister of National Defence, Hansard, 21 January 1960, p. 162.

7 H. Argue, Op. Cit., 26 January 1960, p. 321.

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of Defense of the United States gave no justification for suspending work on the BOMARC sites<sup>8</sup>.

Later that day Liberal member Hellyer made two points: that the BOMARC would be useful only against manned bombers, not against ballistic missiles, and that if the Government had determined to maintain a defence against manned bombers they should long ago have ordered new interceptors, since the BOMARC was only one of a family of weapons, and by itself was useless<sup>9</sup>.

He then got into the atomic weapons side of the argument, asserting that one of the most important considerations of Canadian defence policy at the time was the conversion from conventional to atomic weapons. He included in the nuclear class the BOMARC ground-to-air missile, the Lacrosse ground-to-ground missile, the Sidewinder air-to-air missile, and possibly small atomic bombs for the fighter-bomber F-104G. He stated that the manner in which this information had come to light was regrettable, since there had been no clear-cut Government statement, which he considered the Canadian people were entitled to, on the Government's intention for both offensive and defensive atomic weapons.

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8 G. Pearkes, Op. Cit., 26 January 1960, p. 321-322.

9 P. Hellyer, Liberal Member from Trinity, Hansard, 26 January 1960, p. 381-382.

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He added that if the manned bomber were obsolete, as stated by the Prime Minister, the BOMARC's would probably never be installed. In the meantime, however, a large amount of "taxpayers money will have been spent, uselessly<sup>10</sup>".

As February opened, H. Winch pointed out that the BOMARC "B" missile was reported to have had its sixth failure at Cape Canaveral. He asked whether the Government were still going to spend one hundred twenty-five million dollars to build the two BOMARC bases<sup>11</sup>. The Minister of National Defence stated that he had talked to the Secretary of Defense that weekend and that Secretary Gates was satisfied that the basic missile design was sound and that development by the United States would continue. When the Minister was asked about reduction of the United States funding, he stated:

. . . a number of missile sites in the southern United States had been cancelled but that those on the northern boundary had been retained, and that four hundred twenty-one and one-half million dollars were included in the coming year's budget for the BOMARC project<sup>12</sup>.

On 10 February the Government reported that it had expended three hundred ninety-three thousand dollars on the

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10 Ibid., p. 397.

11 H. Winch, Cooperative Commonwealth Federation Member from Vancouver East, Hansard, 1 February 1960, p. 548

12 G. Pearkes, Op. Cit., 1 February 1960, p. 548.

two BOMARC sites and that since the previous July the estimate of the total cost of the BOMARC program had been reduced from twenty to fifteen million dollars, principally due to redesign of the storage facilities for the solid fuel propellant and for the missiles<sup>13</sup>.

Hellyer later returned to this line of thought, asking for the cost of the total program including the necessary gap-filling radars, the SAGE control and the BOMARC stations<sup>14</sup>. The Minister of National Defence replied that during the previous July the estimate was one hundred twenty-five million dollars, and that with the recent lower cost mentioned above, the overall cost might be slightly reduced now<sup>15</sup>.

Toward the end of the month in a discussion comparing the air defence policy of the United Kingdom with that of Canada, the Minister of National Defence stated that the British had interceptors and were going ahead with the development of ground-to-air missiles. Canada similarly had interceptors and was going ahead with preparations for the BOMARC missile<sup>16</sup>.

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13 G. Pearkes, Op. Cit., 10 February 1960, p. 919.

14 P. Hellyer, Op. Cit., 10 February 1960, p. 927-928.

15 G. Pearkes, Op. Cit., p. 927-928.

16 G. Pearkes, Op. Cit., 24 February 1960, p. 1396.

Not long thereafter the subject again came up in Parliament when the Leader of the Opposition highlighted the seventh successive failure in the BOMARC test-firing and asked whether the Government had made up its mind to suspend expenditures on its BOMARC facilities<sup>17</sup>.

The Prime Minister said he had nothing to add to what had been said on previous occasions on this subject. However, he went on to say that how representative these failures were concerning the overall course to be followed on the BOMARC had not been determined<sup>18</sup>.

Minister of National Defence Pearkes added later that where eighty tests had been made on the BOMARC "A" before it became operational, so far only seven had been made on BOMARC "B", and that it was believed that the difficulties encountered could be overcome. He noted that the United States was spending during that year four hundred twenty-one and one-half million dollars for the development of eighteen interlocking BOMARC sites, two of which would be in Canada. For the latter two the United States was furnishing more than seventy million dollars for missiles and launching equipment, while Canada was contributing fifteen

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17 L. B. Pearson, Op. Cit., 7 March 1960, p. 1787.

18 J. G. Diefenbaker, Prime Minister, Hansard, 7 March 1960, p. 1787.

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million dollars, of which some three hundred thousand had already been spent<sup>19</sup>.

Some two weeks later the Prime Minister again had occasion to answer supplementary questions to the effect that the Government did not intend to suspend work on the Canadian BOMARC sites and the SAGE installations and that he still had confidence in the BOMARC "B" missile<sup>20</sup>. The Minister of Defence Production added that his Department had under study tenders which had been submitted for the work on the Mont Laurier base<sup>21</sup>. In the same debate P. Hellyer asked the Minister of National Defence whether installation was proceeding on the radar gap fillers for warning against manned bombers<sup>22</sup>. The reply stated that sites had been selected but the ground had not been acquired and therefore no construction had been started<sup>23</sup>.

The ensuing hot debate on interim supply featured P. Hellyer prominently. He felt that the Liberal Party could not grant the interim supply without objecting to

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19 G. Pearkes, Op. Cit., 7 March 1960, p. 1789.

20 J. G. Diefenbaker, Op. Cit., 25 March 1960, p. 2446.

21 O'Hurley, Minister of Defence Production, Hansard, 25 March 1960, p. 2447.

22 P. Hellyer, Op. Cit., 25 March 1960, p. 2447.

23 G. Pearkes, Op. Cit., 25 March 1960, p. 2447.

including funds for the SAGE-BOMARC program. He recalled that on the cancellation of the AVRO ARROW the Government gave the impression that the BOMARC was not only less expensive but superior as a defence against manned bombers. He thought that the Canadian people received the impression that the manned bomber threat was diminishing. He stated that Washington had recently held up the SAGE-BOMARC program for a month while it was being reconsidered, in the light of increased accuracy of long-range intercontinental ballistic missiles and the fixed-target characteristics of the BOMARC installations. Here he said was the United States taking a fresh look while the Canadian Government went blindly down a road leading to nowhere with no satisfactory explanation. He considered the program a waste of money since it would protect only a small section of the nation and was too vulnerable to attack by intercontinental missiles as well as aircraft-launched missiles. Once a BOMARC base was wiped out there would be an air corridor open for enemy attack. He failed to understand the insistence to go ahead on this program which had lost the confidence of military and scientific people in the United States. He finally moved that the amount of interim supply of the proposed resolution be reduced by one million dollars<sup>24</sup>.

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24 P. Hellyer, Op. Cit., p. 2453-2456.

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Martin rose to add that the Opposition and Canadians in general had no confidence in the BOMARC missile, in the Government's defence policy, or in presenting this policy to Parliament and to the people<sup>25</sup>.

The Leader of the Opposition strengthened the case by stating that Parliament was being asked to vote money for some aspects of a defence policy which made no sense whatsoever. He considered this especially so in view of the recent information from Washington concerning the BOMARC missile. He indicated that the whole system of continental defence was being reviewed and that it seemed the height of folly to proceed at this time in view of the re-examination. He went further to state that the BOMARC was likely to be a failure and he reminded his listeners that the CF-105 (the AVRO ARROW), a high performance aircraft, had been discontinued by the Canadian Government. He pointed out that the present defence of CF-100's would not be effective against the latest manned bombers and not at all against missiles. He ended by suggesting that perhaps now the Minister would agree to re-examine the whole defence policy in the committee being set up<sup>26</sup>.

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25 M. Martin, Cooperative Commonwealth Federation Member from Timmins, Hansard, 25 March 1960, p. 2457.

26 L. B. Pearson, Op. Cit., 25 March 1960, p. 2458-2459.

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The member from Assiniboia, again pressed his party's views that Canada had been guilty of a "fabulous waste of money<sup>27</sup>" in spending \$1,600,000,000 for obsolete weapons and obsolete equipment which would lull the Canadian people into a false sense of security. He suggested that a large number of the hundreds of millions of dollars should be switched over to economic assistance for the emerging nations of the world.

In his reply to this assault on Government policy the Minister of National Defence took pains to ascribe as the basis for much of the criticism a speculative report which he said could only be a leak from a United States committee meeting held in camera. He flatly contradicted H. Argue that Canada was not being consulted. He stated that Canada's opinion had carried weight in almost daily conversations with the Secretary of Defense<sup>28</sup>. Here again was cross-weave evidence of the interplay between political party strategy and Canadian pride in being a nation not only of great expanse but also of substance and influence in international affairs.

Pearkes then quoted from a United States Defense Department release which stated that in order to make available additional funds for its ICBM program, the United States

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27 H. Argue, Op. Cit., 25 March 1960, p. 2459.

28 G. Pearkes, Op. Cit., p. 2460.

was going to reduce its BOMARC "B" production program and cancel planned installation of advanced SAGE combat centers. It went on to state, however, that an effective SAGE system would be completed for the control of BOMARC missiles and interceptors.

He then tried to place the prospects in a more favorable light by stating that the system would be operational at least two years earlier than it would have been under previous plans. The rationale presented was that there would thus be an earlier and a more effective practical air defence against the weapons the Soviets would have during the next several years. The BOMARC's would be concentrated to protect the industrial northeast of the United States and the contiguous industrial area of Canada. In the overall reduction of the BOMARC program, the squadrons scheduled for the Royal Canadian Air Force were not to be affected. There would still be a SAGE center, although not transistorized, plus the two programmed Canadian BOMARC sites<sup>29</sup>.

In reply the comments of the Leader of the Opposition were relatively mild. He contented himself with the observation that in Washington the government appeared to

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29 Ibid., p. 2489.

be abandoning to a large extent the BOMARC and SAGE program, while in Canada the Minister's confidence in the system seemed to be unimpaired<sup>30</sup>.

Mr. Argue, however, used much stronger language. He considered that this development in the BOMARC situation further confirmed the inferior role that Canada was playing in the "defence partnership". He wondered if there ever had been a real partnership. The United States military seemed to have decided that the BOMARC was an ineffective weapon, that it was "a dead duck", but Canada remained committed to this useless military expense<sup>31</sup>.

Over a month later, in May, Argue brought up the matter again, asking whether the Government intended to have a special committee to examine defence expenditures consider the air defence policy and particularly the BOMARC missile expenditures<sup>32</sup>.

On the following day in answering J. Garland, Liberal from Nipissing, the Minister of National Defence stated that the work on the BOMARC site at North Bay would continue unless plans for the air defence of the continent were changed, and that irrespective of the final decision on

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30 L. B. Pearson, Op. Cit., p. 2490.

31 H. Argue, Op. Cit., p. 2490.

32 H. Argue, Op. Cit., 2 May 1960, p. 3446.

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the BOMARC program, the SAGE installation in the North Bay area would continue to be built<sup>33</sup>.

In later weeks the Associate Minister of National Defence was able to add that he considered that the press had given too much play to the failure of certain trials of the BOMARC but not corresponding attention to the success achieved in recent tests<sup>34</sup>.

In the following year the argument continued. During debate on the cancellation of the AVRO ARROW, the introduction of the VOODOO F101B interceptor, and the questionable value of the BOMARC, the Minister of National Defence stated that the BOMARC installations would be put into operation as a section of the chain of ten to protect the eastern part of the continent. He added that they were effective against manned bombers which were still the main threat to North America<sup>35</sup>.

Again in September 1961 during a supply debate a brutally frank discussion took place which pitted, in part, the Minister of National Defence against the man who assumed that position two years later when his party took over the

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33 G. Pearkes, Op. Cit., 2 May 1960, p. 3491-3492.

34 P. Sevigny, Associate Minister of Defence, Hansard, 18 May 1960, p. 4029.

35 D. Harkness, Minister of Defence, Hansard, 12 September 1961, p. 8268-8289.

government. Harkness and Hellyer argued violently over whether the manned bomber threat was diminishing and was still the main threat in the face of the rising threat of the intercontinental missile. Hellyer then recalled that he had called the BOMARC second-hand. He went on to say that it was worse, that it was junk, a ten-year old concept designed to shoot down manned bombers when they were the only threat. He pointed out that the United States had a standoff nuclear bomb which a plane could launch one thousand miles away from the target, and that the Soviets appeared to be developing the same type weapon. To send a four-hundred mile BOMARC against such a ballistic missile was like fighting a sword with a toothpick. While still outside the range of the BOMARC, the incoming planes would launch missiles, knock out the BOMARC sites, and fly serenely on to their targets<sup>36</sup>.

Five months later in February 1962 BOMARC missiles were delivered to North Bay so as to be operational one month later. That is, they would be almost operational, since there would be no warheads. The BOMARC was designed for a nuclear warhead and no conventional warheads were in existence.

The policy of the Government on nuclear warheads, at least as far as the public was concerned, was "still

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36 P. Hellyer, Op. Cit., 12 September 1961, p. 8323.

clouded in obscurity and confusion<sup>37</sup>". Prime Minister Diefenbaker had stated that no agreement had yet been made with the United States that Canada would accept nuclear warheads. He reportedly said that while there should not be nuclear weapons in Canada in peacetime, they would have to be accepted in wartime. It appeared doubtful to many knowledgeable people, however, that warheads could be rushed to Canada in time for effective operation in a serious crisis. The editorial concluded that for some reason the Government did not seem to regard this situation as peculiar<sup>38</sup>.

Eleven days later a speech, which had been delivered by General Laurence S. Kuter, Commander-in-Chief of the North American Air Defence Command at the Canadian International Air Show in Toronto some five months earlier, was reviewed in a newspaper article. The general had been happy that the percentage of nuclear weapons in NORAD was steadily increasing, particularly because they "killed" the nuclear warheads aboard incoming bombers so that the enemy weapons would not explode and cause deadly fallout upon the crash of the bomber. This capability was cause for thought, the

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37 Editorial, The Montreal Gazette, Editorial page, 2 February 1962.

38 Ibid.

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article stated, since Minister of Defence Harkness had recently stated that there were no conventional BOMARC warheads in existence and the Government was still carefully considering the matter of acquiring nuclear warheads. General Kuter's comments seemed to present strong argument in favor of acquiring them<sup>39</sup>.

In March 1962 two United States Congressmen stated that the BOMARC would be inadequate defence against a massive attack. In parliamentary discussion the Minister of National Defence reiterated that the ability of the BOMARC had been demonstrated a number of times in successful interceptions of aircraft, and that the experts considered it a proven weapon. Chevrier, however, pointed out that the BOMARC depended on its electronic communication system which was above ground and vulnerable to air attack<sup>40</sup>.

Even a national election and change of government did not eliminate the question. During the summer of 1963 the matter was again raised. Newly appointed Minister of National Defence Hellyer reported to the Commons Defence Committee that the greater part of the attack threat to

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<sup>39</sup> Walter Gray, Toronto Globe and Mail, 13 February, 1962, columns 3-7, p. 7.

<sup>40</sup> L. Chevrier, Liberal Member from Laurier, Hansard, 30 March 1962, p. 2337-2338.

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North America was still from bombers rather than intercontinental ballistic missiles. This followed similar comments by Air Marshal C. R. Dunlap, Chief of Staff of the Royal Canadian Air Force. Hellyer then reported to the Committee that the United States had had considerable success in developing the NIKE-ZEUS as an anti-intercontinental ballistic missile, although it was not being put into production. He went on to say that even after the missile threat increased, the bomber threat would remain serious for many years. He stated that the latest BOMARC trials proved the BOMARC to be highly effective against bombers, but it would be some time before nuclear warheads for the BOMARC could be delivered and before United States custodial and maintenance crews for the warheads could be trained.

## SUMMARY

As set forth above, in view of the frequent and violent Parliamentary debates from 1959 to 1963, the matter of the BOMARC missile system does, in fact, deserve particular attention.

The question of its expense versus its apparent effectiveness became a well identified political football during these four years. Was the manned bomber threat tapering off? Was the BOMARC obsolete or well into its obsolescence? Since the United States was tapering off its interest

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in and expenditure of funds on the BOMARC, was Canada wasting money by going ahead with the project? Could taxpayers' money be better spent elsewhere?

What about the succession of test failures reported by the press? Was it "a dead duck"? Since its guidance system and part of the SAGE control system were above ground and therefore vulnerable, should the Canadian people have any confidence in the BOMARC?

Then by 1962-1963 the ultimate question of the day was sure to be posed: nuclear warheads? Since the BOMARC system had been designed to use nuclear warheads, which by their explosion would render ineffective any nuclear weapons carried by enemy bombers in the immediate vicinity of the explosion, and since there were no conventional warheads in existence, into just what position had the Canadian Government managed to maneuver itself?

It was in this tense atmosphere, heavily charged by the BOMARC discussions, that the national election of 1963 took place.

CHAPTER VII

THE EFFECT OF NORAD ON CANADIAN INTERNATIONAL POLITICS

1. Overall Foreign Policy.

Traditionally Canada has played the role of neutral in world affairs. She has had a strong desire for peace and has thought that it could be achieved best through the United Nations organization. By becoming a signatory of that organization, she promised, in effect, to render armed assistance to the United Nations when called on. Later Canada joined the North Atlantic Treaty Organization (NATO) thereby committing herself to keep forces ready to prevent war and maintain peace. Under the terms of the NATO Treaty she agreed to act in concert with the other members of NATO to deter aggression, and in the event that deterrence failed, to take immediate part in resisting armed aggression. Through these actions, by 1950 Canada had adopted a foreign policy based on collective security. Her defence policy is still based on that foreign policy. Thus from the time she joined NATO Canada was no longer a neutral nation. As Prime Minister Diefenbaker said, "Neutrality may be expedient for

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some countries; it is not for us. Canada's geographical position denies it<sup>1</sup>".

When NORAD was established--on an interim basis in 1957 and formally ratified by the governments of Canada and the United States in May 1958--it extended the mutual security obligations of NATO to the air defence of the Canada-United States Region of NATO. This is in keeping with the Article 3 of the North Atlantic Treaty which provides that parties to the Treaty will maintain and develop their individual and collective capacity to resist armed attack. In addition the agreement is also in accord with Article 51 of the United Nations Charter which recognizes the inherent right of individual or collective self-defence of member nations.

## 2. Further Steps away from Neutrality.

By joining in the formation of NORAD, Canada moved one more step away from neutrality. In NORAD she specifically aligned herself to defend the heartland of Canada and the United States against Russia. However, she was always

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1 J. G. Diefenbaker, as quoted in an address by Pierre Sevigny, Associate Minister for National Defence, given to the Business Men's Association of Northern Montreal, entitled "NORAD - A Must for Peace", 15 February 1961, p. 2.

conscious of, and frequently stressed, the defensive nature of NORAD. Although Canadian-United States relationships had become progressively closer ever since President Roosevelt and Prime Minister McKenzie King held their meetings in 1938, the synchronous cooperation necessary for the operation of NORAD inevitably brought the two countries closer and closer together. These progressive steps of Canada's movement away from neutrality had also been traced out by Air Commodore Lane in 1960. He pointed out that it was debatable whether neutrality was a valid objective under the current world circumstances where the residual effects of a nuclear war could kill neutrals and belligerents with impartiality. Since Canada could not achieve an acceptable defence posture alone, he pointed out that she had adopted a policy of collective and regional defence. Within this concept of regional security Canada then contributed, and still contributes, militarily and economically to three cooperative undertakings: the United Nations, the North Atlantic Treaty Organization, and North American Defence.

Lane went on to point out the objectives of these three organizations. First the United Nations Charter: to stop aggression by creating a system for the peaceful settlement of disputes, and to improve world-wide economic, social and cultural conditions. When within four years it became apparent that not all the great powers were going to

cooperate in the United Nations, the North Atlantic Treaty Organization was formed. It undertook by means of continuous and effective self-help and mutual aid to maintain and develop member nations' individual and collective capacity to resist armed attack. The third cooperative undertaking was the North American Air Defence Command, NORAD. The NATO alliance had been divided into a number of regional organizations, one of which was the Canada-United States Region. Lane pointed out that it was evident that the maintenance of the integrity of this region was vital to the survival of the rest of NATO, just as the integrity of Western Europe was vital to the survival of North America<sup>2</sup>.

### 3. The Disarmament Dilemma.

Although Canada throughout the period after World War II, maintained her armed forces and arranged for mutual security for herself and her allies, she remained a staunch advocate of disarmament. The Prime Minister pointed out in October 1957 that even though the disarmament program presented by the nations of the free world had been turned down by the Union of Soviet Socialist Republics in the United Nations, there was in the United Nations a general feeling

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<sup>2</sup> Air Commodore R. J. Lane, in an address entitled "The Canadian Contribution to the Defence of the West", at the University of Michigan, 13 December 1960, p. 11-12.

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that serious reconsideration had to be given to the whole question of disarmament. He continued that the Canadians realized that they lived in tremendous peril of a surprise attack, as did their neighbors in the United States. However, he had laid before the Disarmament Committee, and also before the United Nations, Canada's willingness to open for inspection all parts of the Arctic, providing the Union of Soviet Socialist Republics would do the same. He pointed out, that would have been a step forward toward a more widely accepted disarmament plan. Although the proposal was turned down, the Prime Minister believed that Canada, and incidentally the United States, had indicated that they had nothing to hide and that the purposes of Canada and the United States were peaceful and not aggressive <sup>3</sup>.

Some two-and-a-half years later, the Vice Chairman of the Defence Research Board discussed the thermonuclear weapon or "H" bomb and disarmament. In discussing the United States and Russia, he estimated that probably no more than 20 of the megaton-size "H" bomb hits on the cities of either side would be needed to demoralize or destroy the organized life of these two nations. Because of such considerations, he pointed out, nuclear disarmament had become a popular subject of discussion. He made it clear, however,

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<sup>3</sup> J. G. Diefenbaker, Prime Minister, Hansard, 16 October 1957, p. 52.

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that if the Communist Bloc had superior strength in conventional forces, the free world would find itself at a disadvantage if both sides completely destroyed all nuclear weapons. He went on to conclude that major advances toward disarmament would have to wait until Russia showed, not by words, but by actions that there was a basis for trusting her intentions. He proposed, however, that Canada lose no time in forging ahead with her thinking and her planning toward disarmament and with all other aspects of reducing the chances of war<sup>4</sup>.

#### 4. The Overall Military Policy of Canada.

As Dr. Keyston pointed out in 1959, Canada's military policy was based on the fundamental defence policy of the NATO alliance which was to deter Russian aggression by presenting the frightening threat of massive nuclear retaliatory bombardment. He noted that heretofore the primary purposes of armies and navies and air forces was to win wars. Now, however, their primary job is to insure that there is not a war. As Dr. Keyston put it, the Canadian forces were not so much to help in frightening the enemy; it might be more

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<sup>4</sup> Dr. J. E. Keyston, Vice Chairman of the Defence Research Board, in an address entitled "Military Defence, the Nucleus of the Problem", presented to the Canadian Club of Toronto, 18 January 1960, p. 2-9.

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accurate to state that they were to help in deterring the enemy. He went on to show that the United States bombers and intercontinental ballistic missiles presented an adequately frightening threat to Russia subject to two conditions. These he listed as, first, that Russia did not come up with a perfect defence against ballistic missiles, and, second, that Russia did not have a chance to launch a successful surprise attack that could destroy the long-range bomber and missile bases in the United States before the main retaliatory strike could be dispatched. It was in helping to prevent this type surprise attack that Canada was making her chief defence contribution within North America. The three giant radar lines across Canada: the Distant Early Warning Line, the Pinetree Line, and the Mid-Canada line were primarily to give the necessary early warning to the Canadian fighter squadrons and the Canadian BOMARC guided missiles so that they could seek and destroy the enemy force. Dr. Keyston concluded that Canada contributed to the main deterrent force by protecting it, and that this was a natural mission because of Canada's geographical position.

In addition to Canada's NORAD forces there were also forces in Europe and the Canadian Navy on the high seas. Dr. Keyston noted that the complex aspect of Canada's defence problem was really in trying to decide in detail at each

particular time what type weapons, and how much money, and how many men to put in each of these directions. Canada was thus frequently strained to display her "genius of compromise, which in practice is much better describable as the agonizing headache of compromise<sup>5</sup>".

Illustrative of this type of agonizing headache was the controversy during the preceding year over cancelling the production of Canadian CF-105, the ARROW supersonic aircraft. This was later followed by a decision to adopt the American F-104G strike reconnaissance aircraft for use in Europe. The ARROW had been designed to intercept bombers over Canada. On the other hand the F-104G was acquired to perform strike reconnaissance missions with the Canadian Air Division in Europe. Thus NORAD had lost a programmed Canadian-built interceptor, and the Canadian forces overseas gained a short-range strike aircraft. The cancellation of the Canadian aircraft was truly "agonizing".

As Dr. Keyston pointed out, it was necessary for Canada to keep a balanced defence policy, which included scientific research toward finding a defence against inter-continental ballistic missiles, and at the same time to continue to have a defence against manned bomber aircraft.

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<sup>5</sup> Dr. J. E. Keyston, an address entitled "Military Defence - A Terribly Simple Problem", presented to the Canadian Club of Montreal, 21 December 1959, p. 1-7.

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Either one could be a deadly strike force against North America. In addition she simultaneously contributed conventional forces to the NATO shield force in Europe in order to safeguard that bastion, so necessary to North American defence.

Minister of National Defence Harkness in 1961 stated the Canadian defence policy slightly differently. He gave two main objectives: first to maintain peace by preventing a third global war, and second to prevent subjection of Canada to a foreign power. Successive Canadian governments had believed that these objectives could best be obtained by a system of alliances; therefore the Canadian membership in the United Nations, the North Atlantic Treaty Organization, and the North American Air Defence Command. He thought that history showed that if the coalitions which had won the last two world wars had been in existence and firmly united before those wars, the wars might well have been avoided. He said that NATO and NORAD were the corner stone of Canadian defence policy<sup>6</sup>. Some six months earlier he had expressed much the same sentiments and in almost the same words as Dr. Keyston<sup>7</sup>.

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<sup>6</sup> D. S. Harkness, Minister of National Defence, Hansard, 12 September 1961, p. 8221.

<sup>7</sup> D. S. Harkness, Minister of National Defence, in an address to the United Services Institute of Regina, 24 March 1961, p. 1-4.

Harkness went on to point out that the planning by the Emergency Measures Organization, and the new survival role being carried out by the armed forces was also an important part of the defence policy. There had to be planning for the general control of communications and planning for control of road transport. He noted that there had to be a continuity of civilian government in order to provide guidance and leadership in the event of a nuclear attack<sup>8</sup>.

#### 5. The NORAD Command Arrangement.

The overall effect of the command arrangement of NORAD was to exert a pull which would tend to draw the government of Canada closer to the government of the United States than it had ever been to any government except possibly that of Great Britain. One reason was that the officer appointed to fill the position of Commander-in-Chief of North American Air Defence was made responsible to the governments of both of the countries and was to report directly to the Canadian Chiefs of Staff Committee and to the United States Joint Chiefs of Staff. Further, all the plans for the deployment and the employment of the air defence forces were to be approved by the Chiefs of Staff and, when necessary, by the governments of both countries. Thus when the American

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8 Ibid.

commander was present at the command post there was communication with Canada and when the Canadian deputy was in command there was communication with the government of the United States.

As a result of this arrangement, perhaps it might even be termed "commitment", regardless of how the political climate might vary between the civilian controlling elements of the two governments, there was always an underlying steadying influence from the military elements of the two countries who were ever conscious that for the security of the West, they had to get along with each other. Insofar as helping to preserve long-term international cooperation, this steadying influence seems to have been a thing of value. In addition, perhaps because of the common goal, the military relationship has always been cordial, relaxed and very friendly.

#### 6. The Delicate Matter of Sovereignty.

From the very inception of NORAD and continuing throughout its existence, the matter of Canadian sovereignty had been a center of heated debate. In 1957 Mr. Her-ridge posed the following question on joint air defence during parliamentary debate.

As we still see through a glass darkly, I should like to address a question to the Minister of National Defence. In view of the growing disquietude due to the present intangible and unscrutable arrangements with

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respect to command of Canadian Armed Forces by General Partridge<sup>9</sup>, would the Minister make a statement to inform the house as to General Partridge's present powers with respect to the disposition of Canadian Forces in Canada, and his authority with respect to logistics and other matters requiring decision in the operation of such forces<sup>10</sup>.

He was answered by the Honorable G. R. Pearkes, Minister of National Defence, who emphasized that General Partridge did not in any sense command any Canadian Armed Force. He stated that the Royal Canadian Air Force (RCAF) units assigned to the defence of North America were commanded by the officer commanding the Air Defence Command at Saint Hubert, Quebec. There had been, however, since the preceding August an integrated United States-Canadian Headquarters known as NORAD. He went on that General Partridge's authority did not extend in any way to the disposition of Canadian Forces in Canada or to the logistics of those forces. The integrated Headquarters, NORAD, would, however, be responsible in peacetime for the development of plans and procedures to be used in war. These had to be agreed on and be ready for immediate use in an emergency. These would be reviewed, amended if necessary, and approved by the Chiefs of Staff of the two countries. Government approval would

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9 A United States Air Force officer.

10 H. W. Herridge, Liberal Member from Kootenay West Hansard, 7 November 1957, p. 849-850.

be sought before any plans would be implemented<sup>11</sup>. He was then questioned by another member who asked whether NORAD commanders would have the power by simply pressing a button to send both the United States and Canadian fighters and eventually ground-to-air missiles into action. The Minister replied, "After consultation with the governments concerned<sup>12</sup>". The questioner then stated, "He did not say that<sup>13</sup>". This type of debate and discussion went on with greater and greater heat as the nuclear question became more important. Finally in the middle of May 1963, after the violent Canadian election, the new Prime Minister, the Honorable Lester Pearson, visited President Kennedy at his home in Hyannisport, Massachusetts. It was a meeting which both leaders felt necessary in order to show that continental solidarity was again a fact after the violent political debates and the bitter recriminations which had shown up in some of the news media during the Canadian election campaign. The question of "Nuclear Weapons in Canada" and the control of these weapons, if there were to be any, had been one of the centers of dispute both between the Canadian political parties

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11 G. R. Pearkes, Minister of National Defence, Hansard, 7 November 1957, p. 849-850.

12 Ibid.

13 P. Martin, Liberal Member from Essex East, Hansard, 7 November 1957, p. 858-859.

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and between the United States and Canada during this period. Walter Lippmann's column in the Montreal Gazette is pertinent to this matter.

The President went as far as proud governments ever go in acknowledging a fault when he joined with Mr. Pearson in stressing 'the importance of each country showing regard for the view of the other where attitudes differ'. The Canadian Prime Minister for his part scrubbed out the suspicious nationalism of his predecessor by his very presence at Hyannisport. For Lester Pearson does not merely approve, after a lifetime of experience he incarnates, the hope of building 'a true community of the Atlantic peoples . . .' Although he and the President promised to settle a number of practical matters such as the nasty mess about continental defence, they agreed that 'the two countries will inevitably have different views on international issues from time to time'<sup>14</sup>.

Mr. Lippman went on that it was good that there should be differing views between Canada and the United States, for nothing could be worse for their relations than that Canada would automatically "agree with us". He gave as his opinion that the greatest service that Canada had done the United States in this generation was to produce a crop of first quality diplomats who have given independent, expert and quite candid advice. He stated that on fundamentals the countries had always been close, but "They have stood away from us enough to be free of our own prejudices and excitements". He continued that Mr. Pearson was one of these diplomats and that we had received the kind of intellectual

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<sup>14</sup> Walter Lippman, The Gazette, Montreal, 17 May 1963, editorial page.

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and moral help which could come from a true ally and "never from a sychophant or a client or a satellite<sup>15</sup>".

It was evident from 1957 on that the matter of sovereignty niggled at the members of Parliament. Although on 1 August 1957 there had been a joint statement by the U. S. Secretary of Defence and the Canadian Minister of National Defence concerning the NORAD agreement and the joint command arrangements, many members of Parliament were not completely satisfied. They felt that they did not completely understand what had been agreed on, and they were afraid that this was evidence that here was one more encroachment by the United States on Canadian sovereignty. Interwoven with this concern was the additional squabble between the rights of Parliament and the rights of Government.

In November 1957 the Minister of National Defence assured a member of the Cooperative Commonwealth Federation Party that the Governor General had been informed of the arrangements for setting up NORAD and that he had approved the appointment of Air Marshal Slemon to that Command. He had gone on that the arrangements for setting up NORAD followed a similar pattern to those governing the forces serving in Europe and the Naval forces serving in the Atlantic under the Supreme Allied Commander Atlantic. In addition, he replied to a Liberal Member that there was an Order in Council appointing Air Marshal Slemon, and that at the time

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15. Ibid.

he tabled that Order in Council he also tabled a joint statement issued by the Minister of National Defence and the Secretary of Defense for the United States. In replying to another supplementary question the Minister said that the transfer of authority of command conformed to the practice which had existed for the other Canadian Forces in Europe and the Atlantic and followed closely the procedure which had been set up during the McKenzie King-President Roosevelt conversations before the last war<sup>16</sup>. However, in spite of the central concern with Canadian sovereignty, the concern between the rights of Parliament and the rights of Government, and the concern over the relationship between such a joint-country military power and the civil power of government, on June 24th, 25th and 26th, 1958, the Senate Committee on External Relations discussed and approved the NORAD Agreement.

#### 7. Summary

An overview then of the effect of NORAD on Canadian International Politics may be summed up rather briefly. The overall Canadian Foreign Policy already had definite direction

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<sup>16</sup> G. R. Pearkes, Minister of National Defence, Hansard, 5 November 1957, p. 757, 758.

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prior to the beginnings of NORAD. Canada had determined on collective security and had joined the United Nations Organization and the North Atlantic Treaty Organization. These successive steps away from neutrality made it only a small further step to join in forming the North American Air Defence Command. There was, to be sure, the active question of disarmament at this same period, and there was also the perennial and very active question of Canadian Military Policy versus budget limitations and also of how much money should be spent for arms and how much on projects such as the Colombo Plan. There were also the complications of having a joint two-nation command with ultimately a Canadian or a United States officer giving the final orders to engage in combat or to hold back. And there was, in the eyes of some, the overriding matter of sovereignty and whether any foreign officer should have command of a large segment of important Canadian Forces. In the case of NORAD, this authority went even further, for it might be that a United States Officer would make the final decision which would affect the safety of Canadian cities and ultimately the nation. It was, and it is, certainly an important matter. It has been debated for ten years, and it appears that the debate will not cease until NORAD itself goes out of existence.

CHAPTER VIII

THE EFFECT OF NORAD ON THE CANADIAN ECONOMY

1. Overall Philosophy and General Outline.

With respect to the national economy, the defence program of Canada took orientation from Article 2 of the North Atlantic Treaty Declaration. In December 1957 the Prime Minister explained that he hoped that Article 2, which provided for increased economic interdependence among the member states of NATO, would be a matter which would receive extraordinary attention at the coming NATO meeting. He continued:

As one of the representatives of Canada, it will be my purpose to advance the need of a wider and more comprehensive implementation of that Article, to the end that, while maintaining our defences we shall cooperate in the economic fields that are available, to such an extent as to assure the strongest possible mortar to hold together the forces of freedom<sup>1</sup>.

Against this overall background, this chapter will discuss the following major points:

- . Normal ever-present efforts to reduce defence costs.
- . Those direct economic contributions which can be identified as coming directly from NORAD.

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1 J. G. Diefenbaker, Prime Minister, Hansard, 11 December 1957, p. 2177.

- . Placing NORAD costs in perspective by comparison with Colombo Plan costs and with the total defence budget.
- . The unfortunate case of the Avro Arrow Interceptor, the CF-105.
- . The production sharing arrangement with the United States.
- . Costs associated with the Radar Lines and the BOMARC sites.
- . The research and development efforts of Canada and the United States.
- . The dreaded penetration of Canadian industry by the United States.

## 2. Efforts at Cost Reduction

The sheer size of the annual defence budget and its importance to the well-being of the nation has always made it a focal point of parliamentary debate. In February of 1957, for instance, while discussing the proposal to establish an Energy Board at the national level, the Leader of the Opposition suggested that one of the objectives would be to survey the national resources of Canada in relation to their availability and their foreseeable demand as indicated by the requirements of the defence program as well as the

domestic demands of an expanding economy<sup>2</sup>.

Later that year in November, a member of the Co-operative Commonwealth Federation, in discussing whether or not there should be a committee to examine defence expenditures commented,

. . . that the time has long since passed when we can say to ourselves that an expenditure of almost 2 billion dollars on our current type of national defence provides an adequate defence for Canada<sup>3</sup>.

A Conservative member had previously said that he wondered whether Canada had not reached a point where if she were to maintain control of her own resources she might not have to say to her Allies that Canada must take care of her own economic requirements while they take over more of the continental defence effort. He continued that he thought Canada could no longer afford to bear the burden of some of the defence costs which were facing her<sup>4</sup>. The other side of the coin had also been put forth periodically. For instance a member from Cochrane stated that many Canadians would welcome a reduction in the defence budget but:

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2 J. G. Diefenbaker, Leader of the Opposition, Hansard, 11 February 1957, p. 1159.

3 H. Argue, Cooperative Commonwealth Federation Member from Assiniboia, Hansard, 15 November 1957, p. 1205.

4 J. Hamilton, Progressive Conservative Member from York West, Hansard, 18 October 1957, p. 150.

They fully understand that as long as Communist Russia nourishes the same ambitious designs, we owe it to ourselves and future generations to maintain a moral and spiritual force, and even an armed force, to provide for all emergencies<sup>5</sup>.

The efforts by the Government to reduce the defence costs covered all aspects including that of purchasing equipment. For instance in 1957 some savings had been made possible as a result of cancelling the Mark 6 version of the CF-100 fighter-interceptor aircraft. This and other programs were reappraised from time to time and readjusted in priority in the light of changing concepts of warfare.

### 3. Direct NORAD Contributions to the Canadian Economy.

One of the most direct contributions of NORAD to the Canadian economy has been United States dollars which otherwise would not have entered Canada. The United States portions of NORAD have made public certain of their figures in this area for the United States Fiscal Years 1962 through 1965. These fiscal years run from 1 July to 30 June of the following year. The total payments in favor of Canada which entered the international balance of payments in Fiscal Year 1962 were seventy million six hundred and eleven thousand dollars. In Fiscal Year 1965 the corresponding figure was eighty-three million one hundred fifteen thousand dollars.

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<sup>5</sup> J. A. Habel, Member from Cockrane, Hansard, 21 January 1957, p. 487.

These figures include the following types of moneys: the pay of United States military and civilian personnel stationed in Canada, the payments for construction in Canada, transportation of things, rents, communications, utilities, contracted maintenance of equipment, gasoline and oil for ground vehicles, supplies and materiel, and procurement of such things as aircraft, missiles, electronic equipment, aviation fuel and services at Canadian air fields. In addition to the above figures, there was over a million dollars each year for the direct hire of Canadian personnel.

Approximately one-half of the above total balance of payments money was expended during these years by the United States Air Defense Command section of NORAD. A more detailed breakout of the Air Defense Command balance of payments figures for the fiscal years 1962, 1963 and 1964 are set forth below as an indication of where these amounts of money entered the Canadian economy.

Although the average expenditure during these years was thirty-four million four hundred thousand dollars, it is evident from the table that costs varied from year to year for different items. In general, expenditures tended to decline during this period. However, in 1964 the final item: Continental Air Defense Integration-North suddenly became a major expenditure. It is possible that the ballistic missile

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Table I.

AIR DEFENSE COMMAND  
 FORECAST OF EXPENDITURES ENTERING  
 THE INTERNATIONAL BALANCE OF PAYMENTS  
 (As Reported in RCS: DD-COMP (SA) 167 (R3))  
 (in thousands)

	<u>CANADA</u>		
	FY1962	FY1963	FY1964
Major Equipment	\$ 128.1	\$ 14.2	\$ -0-
Materiel and Supplies	7,082.3	2,875.9	2,567.0
Gross Civilian Pay			
U. S. Citizens	13.6	8.0	24.8
Indigenous	2,803.4	1,832.3	1,224.3
Military Construction			
Foreign Contractors	3,647.5	-0-	-0-
Temporary Duty Travel	146.0	96.4	-0-
Transportation of Things	2,180.0	1,097.8	1,244.0
Communications	167.8	114.0	39.0
Rents and Utilities	287.0	213.8	-0-
Contractual Services	1,116.0	817.0	666.0
Distant Early Warning Line	23,905.3	19,480.0	16,067.0
Continental Air Defense			
Integration - North	<u>-0-</u>	<u>-0-</u>	<u>13,421.0</u>
Total	\$41,477.0	\$26,549.4	\$35,253.1

defence equipment due for production after 1967 will again cause major increases in NORAD expenditures.

These United States expenditures were, of course, not the total amounts expended on NORAD. There were also extensive Canadian expenditures. For example, up to January 1958, the total expenditures for the Mid-Canada Line, including the cost of construction, was approximately one hundred twelve million dollars. The overall cost of the Mid-Canada Line was estimated at two hundred fifteen million dollars. In addition it was calculated that the approximate cost per year to operate the Line was eighteen million dollars. The total contractual cost for the operation of all 57 of the far north Distant Early Warning Line stations was estimated at fifty million three hundred thousand dollars in fiscal year 1959 and fifty-three million eight hundred thousand dollars in 1960. These amounts included the prime contract with the Federal Electric Corporation, salaries, transportation, and repair of the sites<sup>6</sup>.

To place these dollar amounts in perspective, a total Canadian defence budget during the NORAD years has tended to range from one billion six hundred million dollars

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<sup>6</sup> General Earl E. Partridge, Extract from Hearings before the Subcommittee of the Committee on Appropriations, House of Representatives, U. S. Congress, 12 February 1959, p. 360.

to one billion nine hundred million dollars. Allied with the directly traceable dollar amounts spent for NORAD are also the following types of expenditures of Canadian money. The navy bought CS2F "Tracker" Aircraft. The total expenditures on this program to the end of the 1959-1960 expenditure year were in the order of one hundred fifteen million dollars. According to the 1959-1960 estimates, some twenty-one million five hundred thousand dollars worth of these aircraft were to be used, in part, with the NORAD tracking system for locating missile submarines which might be approaching our coast. Similarly the Royal Canadian Air Force aircraft program included production of the ARGUS Maritime reconnaissance aircraft. The total cost of this program was estimated at two hundred thirty-seven million dollars with approximately thirty-three million dollars to be spent in 1959-1960.

In 1959-1960 the estimates also provided money for the first phase of the SAGE-BOMARC heavy radar construction program. Under the cost-sharing arrangements with the United States, which covered the construction of additional radar sites and gap-filling radars for the Pinetree system, plus the introduction of BOMARC missiles and SAGE electronic control equipment, plus the construction of bases and the provision of equipment for the troops, the total cost over the years was estimated at three hundred seventy-five million dollars. Approximately one hundred twenty-five million

dollars was to be provided by Canada, and of this, some ten million dollars was included in the 1959-1960 estimates<sup>7</sup>.

#### 4. Comparison with Colombo Plan Costs.

As a further yardstick, the dollar size of the NORAD program may be compared to the Colombo Plan for Cooperative Economic Development in Southeast Asia. Since its inception in 1950, Canada has maintained a high degree of interest in the program, and her contributions have ranged from four hundred thousand dollars in fiscal 1950-51 to twenty-five million four hundred thousand dollars in 1951-52, thirty-four million dollars in 1956-57 and fifty million in 1959-60. Parliamentary comment, particularly from mid-western members, has frequently cited the desire for higher expenditures in such areas as the Colombo Plan and correspondingly less in the field of NORAD and other defence expenditures. It is significant that in spite of the often vociferous opposition in Parliament, and in spite of the other competing programs which also require large expenditures of funds, the Canadian Parliament and Government have continued over the years to expend far more on NORAD, NORAD construction, NORAD-related equipment and the pay and allowances of Canadian

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<sup>7</sup> G. R. Pearkes, Minister of National Defence, in a pamphlet entitled "Defence 1959", the Queen's Printer, Ottawa, 1959, p. 21-28.

Servicemen operating directly with NORAD than they have for such programs as the Colombo Plan.

5. The AVRO ARROW Interceptor--Cancellation and Loss.

One of the greatest blows to the Canadian economy in recent years, and certainly the worst blow to the engineering economy and its associated production, was the cancellation of the AVRO ARROW Interceptor Program. Because of the cost of fighter-interceptor aircraft, the amount of money put aside for the procurement for this type of equipment has always caused controversy in democratic countries. Some of the criticism, such as that by Maj. Gen. W. H. Macklin, former Adjutant General of the Canadian Army, would be put down by Air Force proponents as influenced by inter-service rivalry. However, when considering the expenditure of more than twenty billion dollars for national defence during the decade beginning with the start of the Korean War in 1950; and with more than one-half of this money spent on the Royal Canadian Air Force, over half of which was spent in purchasing and operating the jet propelled interceptor, it is natural that this has been one center of attention. These aircraft included the SABRE, the VAMPIRE, the CF-100, and the VOODOO.

There was also to have been the AVRO ARROW, the CF-105. On this CF-105 program there were afterwards various

estimates of expenditure ranging from three hundred million to five hundred million dollars. The program to develop the AVRO ARROW Interceptor, which was designated the CF-105, was designed to develop a successor to the CF-100. It was to be used in the defence of Canada. When the program began it was estimated some five or six hundred aircraft would be needed, and the forecast cost was between one-and-one-half million and two million dollars each. All long-range development projects of this type are, of course, hazardous; and the decisions to proceed, both initially and thence periodically as the program develops, are necessarily tentative and subject to change. It was hoped at the beginning of the program that other nations, including the United States, would buy the Canadian aircraft so that the unit cost could be reduced through large-scale production.

The aircraft was designed to have very high performance and to set a new world speed record. As it turned out, the production schedule tended to stretch out, with the final delivery date getting later and later. The United States in the meantime was going ahead with the design and production of somewhat competitive aircraft. By 1959 when the final decision on whether or not to go into production on the CF-105 was made, the United States already had on hand and flying competitive aircraft, which in addition to having similar flight characteristics were also compatible with

proven weapon systems. Thus by 1959 it had become apparent that the United States was not likely to buy any of the CF-105's, and it was also becoming more and more unlikely that European or South American nations would buy these aircraft.

In addition, as Prime Minister Diefenbaker said in February 1959 in announcing the government policy on Air defence:

The technical performance of this aircraft is a credit to its designers, but unfortunately these outstanding achievements have been overtaken by events. In recent months it has been realised the bomber threat, against which the CF-105 was intended to provide defence, has diminished; and alternative means of meeting the threat have been developed much earlier than was expected<sup>8</sup>.

The Prime Minister went on that during 1959 and 1960 a small number of modern bombers would constitute the main threat and that NORAD was considered adequate to meet it. He thought that the potential aggressors seemed more likely from that time on to put their effort into missile development rather than bomber forces<sup>9</sup>. In looking to the future, by the middle of 1962 it appeared that the size and accuracy of the intercontinental ballistic missile threat would be increased and would also probably be supplemented by submarine-launched missiles. It was only in this period after

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8 J. G. Diefenbaker, Prime Minister, Hansard, 20 February 1959, p. 1221-1224.

9 Ibid.

mid-1962 that the CF-105 could be fully operational in the Royal Canadian Air Force. Thus its chief period of usefulness would have passed before it was ever available for service.

Then, reference the changes that had been made in the aircraft in the previous five months, he estimated that the total average cost for each of the one hundred operational aircraft then envisaged could be reduced from the then-calculated twelve million five hundred thousand dollars to about seven million eight hundred thousand dollars. This was a shocking increase from the original estimates of one-and-one-half to two million dollars. This cost would not, however, include any of the three hundred and three million dollars spent on the aircraft development prior to the previous September. Thus at a time when the CF-105 appeared to be going to cost approximately eight million dollars, an aircraft with similar characteristics could be bought in the United States for two million dollars<sup>10</sup>. For this array of reasons, then, in September 1959 the Conservative Government stated that it had terminated the program for the development of the AVRO ARROW CF-105 Aircraft and the associated Iroquois

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<sup>10</sup> General Charles Foulkes, former Chairman of the Chiefs of Staff Committee, in an article "Arrow Nearly Scrapped By Liberals", The Globe and Mail, Toronto, October 23, 1963, p. 35.

engine. Formal notice was given to the contractors and arrangements were made for settling the outstanding commitments.

The final cancellation of the CF-105 program did not come like a bolt out of the blue. In November 1957 Mr. Argue had asked the Prime Minister if he would comment on a statement by Lieutenant General Simonds that, "If the three hundred million dollars spent on 'that dead duck CF-105' had been used to stockpile Canadian wheat in Europe, it would have been spent to a much greater advantage<sup>11</sup>".

In October the Minister of National Defence had been asked about a newspaper article stating that the government intended to equip the Royal Canadian Air Force with the CF-105. The Minister replied a week later that after full consideration of the possible threat and the alternatives, the Government, after receiving the advice of the Chiefs of Staff, had decided to continue developing the CF-105 and its intended armament, the SPARROW II air-to-air guided missile, for one more year. At the end of that time the program was again to be reviewed<sup>12</sup>. Three months later he added that the development of the supersonic interceptor had begun some few

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11 Lieutenant General Simonds, quoted by H. Argue, Cooperative Commonwealth Federation Member from Assiniboia, Hansard, 13 November 1957, p. 1062.

12 G. R. Pearkes, Minister of National Defence, Hansard, 29 October 1957, p. 511.

years before and that it had been decided to continue the work for one year or more. He continued that they had the right to discontinue that development should the circumstances warrant taking such a step<sup>13</sup>.

A short time later the Minister, in answering a similar question, stated that the matter was constantly under examination, that the future of the aircraft depended on the nature of the threat, and that as long as the threat existed the development and production of the CF-105 would proceed<sup>14</sup>.

In January 1959 the Leader of the Opposition, while speaking during a debate on the Address in Reply to the Speech from the Throne, commented that statements by the Minister of National Defence on the CF-105 Aircraft had caused a good deal of confusion. It should be added that the confusion caused by the remarks of the Minister of National Defence had caused the Canadian Air Marshal, Deputy Commander of NORAD, to come out in vigorous public defence of the CF-105. Previously it had sounded as if the Royal Canadian Air Force Squadrons on the North American continent would be equipped with the ARROW. Then on October 17,

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13 Pearkes, Op. Cit., 4 January 1958, p. 2874.

14 Pearkes, Op. Cit., 23 January 1958, p. 3674.

1958, the Minister had indicated that the CF-105 "had outlived its usefulness before it was fully developed<sup>15</sup>".

In replying to Mr. Pearson's comments, the Prime Minister stated that when the Government had made its statement on the ARROW, the international situation was particularly dangerous in the Far East, and there was a possibility that a major war might have broken out. He said that this was an important factor behind the government's statement released in September<sup>16</sup>.

It must be concluded then that over a two-year period there had been confusion on whether or not to continue the AVRO ARROW program. There had certainly been hesitancy on the part of the Government. It was, of course, a large and important program with national prestige very much involved, and ending the program would obviously have been an unpopular move. Early in 1957 the Liberals under St. Laurent discussed scrapping the ARROW program but decided to wait until after the election in June. When they lost the election the problem passed to the Conservatives who waited a year-and-a-half before finally announcing the decision.

The losses to the Canadian economy brought about by the closing down of the ARROW program were many. Thousands

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15 L. Pearson, Leader of the Opposition, Hansard, 19 January 1959, p. 56.

16 J. G. Diefenbaker, Prime Minister, Hansard, 19 January 1959, p. 57.

of trained men and women lost their jobs. The A. V. Roe plant was seriously injured by the loss of this half-a-billion-dollar prime contract. Electrical plants lost sub-contracts. The Orenda engine factory was hurt. The contractors for the SPARROW II missile lost business. But perhaps the greatest loss to Canada in the long run was the loss of whole teams of trained people. Mr. Pearson charged that the confusing statements in the fall of 1958 had caused uncertainty and bewilderment and brought about the loss of some technical experts to the United States<sup>17</sup>. Another Liberal charged that the Government was disorganizing the Canadian aircraft industry which he considered very important for the country. He pointed out that the Government had promised to divert 15 percent of Canadian purchases to Commonwealth Countries, but that instead it was buying BOMARC missiles and aircraft from the United States. He considered that this made Canada dependent upon the United States for its own defence<sup>18</sup>.

In April Mr. Argue, pointing to a news dispatch, stated that 1000 former AVRO workers had applied for United States visas. He asked the Minister of Labour if steps were

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17 Pearson, Op. Cit.

18 J. O. Gouer, Liberal Member from Roussel, Hansard, 29 January 1959, p. 500-501.

being taken to retain in Canada the remaining unemployed persons from this industry<sup>19</sup>. Although the National Employment organization was utilized to locate these people in other jobs, whole teams of highly trained engineers, apparently feeling that there was little future for them in Canada, did emigrate to the United States, many to the aircraft industry on the West Coast. At one point Mr. McMillan asked the Minister of Defence Production if the 25 AVRO scientists who had been assigned to the "Mercury Man-in-Space project" at Langley Field, Virginia, were proceeding to the United States at the expense of the Canadian government<sup>20</sup>. The reply stated that the engineers were being paid by the United States National Aeronautics and Space Administration.

Even two-and-a-half years after the decision to end the program, the AVRO ARROW was still being hotly discussed in Parliament. In comparing Canada's and Sweden's defence achievements, C. W. Carter, a Liberal, emphasized that Canada was not getting value for its dollar, as was the case with Sweden. He went on to contrast the cancellation of the CF-105 with the still-present bomber threat<sup>21</sup>.

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19 H. Argue, Op. Cit., 29 April 1959, p. 3104.

20 W. McMillan, Liberal Member from Welland, Hansard, 23 April 1959, p. 2970.

21 C. W. Carter, Liberal Member from Burin-Burgeon, Hansard, 12 September 1961, p. 8261-8263.

Another Liberal, Judy LaMarsh, continued by questioning the wisdom of cancelling the AVRO ARROW aircraft in light of the manned bomber threat still in existence. She criticized the replacement aircraft from the United States, the VOODOO, which she called a 10-year old plane, as being incapable of intercepting the current Russian bomber<sup>22</sup>.

In reply to her criticism the Minister of National Defence pointed out that the decision to go ahead with the building of the AVRO ARROW was "the greatest single mistake made by any government in Canada in defence equipment matters or in connection with defence production<sup>23</sup>". He continued that his government had made the greatest possible efforts to try and interest other countries in buying the airplane. When the cost became fully known, however, this sale was out of the question. This in turn meant that production could not go on. If it had, it would have meant that most of the defence budget over three years would have had to be devoted to the payment for the AVRO ARROW. Reference the criticism of the VOODOO, the Minister stated that

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22 J. LaMarsh, Liberal Member from Niagara Falls, Hansard, 12 September 1961, p. 8265-8268.

23 G. R. Pearkes, Minister of National Defence, Hansard, 12 September 1961, p. 8268.

the performance of the ARROW and the VOODOO were very comparable<sup>24</sup>.

In May 1962 Lester Pearson again attacked the closing of the program. He said that the Government had killed the ARROW program in 1959, and then in a "wastefully confused" program ordered an American aircraft for the same job. Pearson was speaking in Toronto, in a Riding which included some of the 14,000 workers affected by the ARROW program<sup>25</sup>.

When the ARROW program ended, Mr. Hellyer asked the Prime Minister to intervene and save the No. 6 Mark II ARROW aircraft so that it could be completed and test flown<sup>26</sup>. The Prime Minister replied that this would be considered; and also in answer to another question replied that he had received no communications from the United States regarding the employment of the AVRO aircraft for test purposes. However, he stated that the government had taken the initiative in trying to find some useful purpose for the ARROW aircraft that had been completed<sup>27</sup>.

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24 Ibid.

25 L. Pearson, feature article "ARROW Decision Attacked", Toronto Globe and Mail, May 1, 1962, p. 1.

26 P. Hellyer, Liberal Member from Trinity, Hansard, 29 April 1959, p. 3103.

27 Diefenbaker, Op. Cit., 29 April 1959, p. 3103.

## 6. Production Sharing Aspects

In 1950 the governments of Canada and the United States agreed on a statement of principles for economic co-operation. One of the results of this statement of principles is the production sharing concept which includes the broad range of development and production of military equipment for North American defence. In 1959 the Minister of Defence Production stated that the government was taking what steps it could to insure that the Canadian manufacturers were given access to the United States defence production program. This he said had immediate importance in relation to the BOMARC, SAGE and radar programs. The approach was to identify equipment for which Canadian industry was competent to undertake production as either prime contractors or as subcontractors for United States contractors<sup>28</sup>.

He stated that as a result of production sharing efforts a Canadian company had been selected to produce the wings and ailerons for the BOMARC missile. This contract was worth one million seven hundred thousand dollars. There were also subcontracts for the BOMARC, and in addition contracts covering electronic equipment which had been placed in Canada<sup>29</sup>.

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<sup>28</sup> O'Hurley, Minister of Defence Production, Hansard, 23 February 1959, p. 1219.

<sup>29</sup> Ibid., p. 1269-1270.

Later that day in referring to the cost sharing arrangements with the United States, the Leader of the Opposition stated:

If the United States is going to pay for the weapons used in Canada by the RCAF, then one cannot help but wonder whether it would not be more consistent with our national position or national pride to turn the whole BOMARC and SAGE operation over to the United States and carry out some other task which would have a Canadian character and be paid for by Canada<sup>30</sup>.

He remarked that Canada did not want financial help from the United States for equipment produced in Canada for Canadian forces, but what Canada did want was access to the United States market for defence equipment which can be made in Canada for the United States forces<sup>31</sup>.

There was some opinion, in 1958 for instance, that if Canada were to share in the production of the new and complex equipment needed for the air defence of the country, Canadian industry would have to be satisfied with participating as sub-contractors in the large United States production programs. The AVRO ARROW interceptor program had been started as a large prime contract, and thus in effect it was a large-scale Canadian effort to avoid being relegated to only such a role in defence production. Another somewhat smaller effort was the production of the

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30 L. Pearson, Leader of the Opposition, Hansard, 23 February 1959, p. 1294.

31 Ibid.

armored personnel carrier vehicle known as the BOBCAT. In the middle 1950's the United States Army had indicated interest in having Canada build an armored personnel carrier for use by the United States, the Canadian and possibly the British Armies. Canada had shown interest in the proposal and started preliminary work which was, however, delayed from time to time. In January 1959, the Minister of Public Works announced that the Canadian Car Company had been instructed to proceed immediately with further development with the amphibious tracked personnel carrier known as the BOBCAT. He added that the vehicle had been designed by the Army and by the engineers of the Canadian Car Company, and that it was attracting military interest in both hemispheres. He stated that the carrier was still in the development stage, but that recent tests of three prototype vehicles had shown the tactical effectiveness of the weapon and that further development would be closely followed by the Army Engineers<sup>32</sup>.

The Minister of Defence Production announced the following year that the BOBCAT was in the last stage of development. He expected that development would be completed in early fall and that serious consideration would then be given as to whether or not it should be put into production.

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<sup>32</sup> Howard C. Green, Minister of Public Works, Hansard, 29 January 1959, p. 513.

He stated that none of the NATO Allies had as yet agreed to purchase the vehicle<sup>33</sup>. The following month the Minister of National Defence informed the house that there was sufficient money in that year's estimates to complete the development of the BOBCAT<sup>34</sup>. In September 1961 the Associate Minister of Defence indicated that the BOBCAT program was being pushed forward as rapidly as possible<sup>35</sup>. In February 1962 the Minister of National Defence stated that a first order of BOBCAT's was being produced at that time. When this had been successfully completed it was intended to proceed with an order of some 480 vehicles for the Canadian Army to complete this project. By the time the final decision was made in 1963, the United States had gone ahead and produced and put into the field its own armored personnel carrier. It was by that time in 1963 a proven vehicle with characteristics very similar to the BOBCAT. Also it was being produced much more cheaply than the BOBCAT. In the light of all these factors, the Canadian decision was ultimately to buy the American vehicle as its standard Army equipment. The BOBCAT program was terminated, however, with less injurious economic

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33 O'durley, Op. Cit., 23 May 1959, p. 4127.

34 G. Pearkes, Minister of National Defence, Hansard, 17 June 1959.

35 P. Sevigny, Associate Minister of Defence, Hansard, 12 September 1961, p. 8240.

impact than the AVRO ARROW, but again with some bitterness.

Not all programs turned out so badly. From time to time there were exchanges of equipment, for instance, selling CL-44 Canadian transport aircraft to the United States in exchange for F-101 fighter aircraft for the Canadian NORAD squadrons<sup>36</sup>.

In spite of the problems which arose from time to time, production sharing between Canada and the United States continued, usually with an increase each year in joint sharing and with a typical balance, for instance in 1961, of fifty million dollars on the Canadian side<sup>37</sup>.

#### 7. The Effect of NORAD on Canadian Research and Development

In the years prior to NORAD, the paucity of Research and Development in Canada was an Achilles heel for the economy of the nation. To be sure, the Defence Research Board and the National Research Council on the government side had enviable records; but Canadian industry, in comparison with industry to the south, was greatly lacking in on-going aggressive research and development. This flaw in the warp

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<sup>36</sup> P. Hellyer, Liberal Member from Trinity, Hansard, 3 February 1961, p. 1709.

<sup>37</sup> J. G. Diefenbaker, Op. Cit., 22 January 1962, p. 68.

and woof of industry made such a large hole that many contracts slipped through to be garnered elsewhere, largely because industries outside were one jump ahead in technology.

The reasons seem to be several. Some hard-bitten Canadian industrialists felt that their companies could not afford to invest 5 percent or 10 percent of their capital in something like research and development which could promise no immediate return on the investment, and which was somehow suspect as "egg-headed" and impractical. Some of the other large corporation-member firms were divisions of firms with their centers of gravity in the United States. These tended to do their research work in the South, which did not give Canadian industry full value.

The coming of NORAD with its futuristic radar installations, its high-altitude problems of interceptor flights, radio propagation and the spoofing of enemy radar and radio communications, promised to give a boost to Canadian interest in and participation in the most modern frontiers of research.

In November 1957 the Prime Minister was questioned by Lester Pearson on Canada-United States cooperation, particularly in the field of defence research and development<sup>38</sup>. Later that day the Minister of National Defence spoke on

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<sup>38</sup> L. Pearson, Liberal Member from Algoma East, Hansard, 8 November 1957, p. 891.

recent developments in the missile field. He said that Canada could make a major contribution to research in support of defence against ICBM's in the radio propagation field, particularly in the auroral zone. He went on that this was a joint undertaking with the United States Air Force at the Prince Albert radar site which was under construction<sup>39</sup>. He then discussed the grave threat of submarine warfare, pointing out the improved anti-submarine devices which were in process of research and development<sup>40</sup>.

Also during this period a Liberal member, speaking during the address debate, stated that he hoped that the coming meeting of the heads of NATO would "determine definite and workable plans to enable cooperation in the pooling of scientific knowledge<sup>41</sup>".

On the following day the Prime Minister drove home all these points. He said that the radar to be installed in Saskatchewan had been loaned by the United States to be operated by Canadian research personnel as part of the Canadian contribution. Among other joint efforts of considerable significance was the development of defensive measures against the missile-carrying submarine. These measures

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39 G. Pearkes, Minister of Defence, Op. Cit., p. 1901.

40 Ibid., p. 1902.

41 S. Haidasz, Liberal Member from Trinity, Hansard, 12 November 1957, p. 1031=1032.

included both detection techniques and improved methods for destroying the submarines. He concluded by stating that the two governments intended "to fully explore further cooperation and consultation in these important fields of defence, particularly in research and development<sup>42</sup>."

Although not normally in favor of NORAD, the Cooperative Commonwealth Federation Party could be on the positive side of research. A member asserted that the launching of Sputnik called "for a tremendous expansion of what we spend and what we do in the field of scientific research<sup>43</sup>". He was not alone in this regard, and NORAD did expand its capabilities to watch the Sputnik threats to Canada and the United States during the following years.

In December 1957 the Social Credit Party was heard from. A member suggested that the most effective contribution by Canada against aggression might be to spend millions of dollars on research and on financing the technical training of a great many more Canadians. He went on to ask the Minister to enlarge the plans being developed to intercept ballistic missiles<sup>44</sup>.

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<sup>42</sup> J. G. Diefenbaker, Op. Cit., 13 November 1957, p. 1059-1060.

<sup>43</sup> S. Knowles, Cooperative Commonwealth Federation Member from Winnipeg North Centre, Hansard, 14 November 1957, p. 1137.

<sup>44</sup> S. Low, Social Credit Member from Peace River, Hansard, 5 December 1957, p. 1915-1916.

Early in 1958 these points were again reviewed, with stress on the extensive laboratory at Halifax for work on the detection and location of submarines, the work at the Esquimalt Laboratory for detecting underwater noises and related problems, the study concerning missiles entering the auroral zone, and the research station to be manned chiefly by scientists from the University of Saskatchewan<sup>45</sup>.

These kinds of parliamentary discussions, plus the years of work on the radar lines across Canada, and the techniques which had to be developed for the Far North construction and operations, all boosted Canadian research and development. Also, next to the United Kingdom, the United States spent more money in Canada on aerospace research than did any other country; and Canada received more international balance of payment credits from such research than did any European country. In addition the numerous contracts and subcontracts connected with NORAD development sparked even greater interest in Canadian industry. The text preached by the Minister of Defence Production and the Vice Chairman of the Defence Research Board began to sink in. Both Canadian owned firms and those with strong connections to the South began to expand their research and development groups.

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45 M. Henderson, Hansard, 4 January 1958, p. 2877.

Thus the beneficial influence of NORAD on Canadian research was evident, although difficult to measure mathematically.

8. Further Penetration of Canadian Industry  
by U. S. Investment.

One aspect of the economic impact of NORAD on the Canadian economy was the increased interest in Canada among United States investors caused by (1) the publicity given to NORAD, (2) the investment possibilities highlighted by the massive construction work and the installation of expensive equipment (3) by the concomitant exploration across vast reaches of northern country, and (4) by the word-of-mouth stories of the many civilian and military personnel stationed in Canada or returning from trips to NORAD sites. The net effect was a tendency for increased economic penetration of Canadian industry.

In mid-1963 columnist Walter Lippman made the following comment on the status of this economic penetration. The occasion for the article was the visit of Prime Minister Pearson to see President Kennedy in Hyannisport, Massachusetts following the Prime Minister's recent election.

It will be a mistake, however, if we concentrate our whole attention on foreign policy. There is a serious problem in the relations between Canada and the United States which is not referred to in the Hyannisport communique. It broods over all our relations. It is

the problem of the great United States economic penetration of Canadian industry. It should be said at once that the United States investment in Canadian industry is not sinister. Canada, like the United States in its own period of industrial development, has had to draw capital from abroad. The problem is primarily, perhaps wholly, one of inducing the great United States' interests in Canada to proceed with all deliberate speed to Canadianize the ownership and the direction and the operation of their companies.

It cannot make for the kind of good relations we need to have with Canada that a total of 52 percent of the capital invested in manufacturing and in mining is controlled in the United States. In certain key industries the control is even greater, rubber, 90 percent; agricultural machinery, 55 percent; automobiles and parts, 96 percent; electrical apparatus, 67 percent; smelting and refining of non-ferrous ores, 66 percent<sup>46</sup>.

Again, the effect NORAD had on this degree of economic penetration is impossible to measure. However, to attempt to argue that there was no effect, or that the massive expenditure of money, materials and human effort which went into NORAD left American investors unaffected seems out of the question. NORAD surely heightened the interest of United States investors in Canada and is partially responsible for the degree of their investment.

Two months later a New York Times editorial reprinted in the Toronto Globe and Mail asserted that foreign investors had been willing to take risks that Canadians had avoided and that Canadians owed their rapid industrial development and their high living standards to "the huge influx of

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<sup>46</sup> Walter Lippman, Feature article on the editorial page of the Montreal Gazette, "Mr. Pearson and Mr. Kennedy", 17 May 1963.

foreign capital". The editor, however, did not see how the penalties on foreign investors as proposed by Finance Minister Walter Gordon, would help the long-run aim of encouraging domestic investment<sup>47</sup>.

#### 9. Economic Summary.

The economic effect of NORAD on Canada, as shown above, bears a resemblance to the fall of rain on a rugged mountain slope. Each tiny rivulet and creek as it forms seems like a trivial affair. However, as they come together and swell into a river the total effect assumes a different order of magnitude.

The clearly traceable direct additions to the Canadian economy: the payrolls of military and civilian personnel from the United States, plus the attendant transportation and construction costs and direct-hire payments are not in themselves massive. However, the investments in the radar lines and the equipment costs in ground installations, aircraft, BOMARC's SAGE and communications reach into billions of dollars.

Added to this beneficial impact was the boost provided by the increased interest in research and development and the lift given to the Defence Production Sharing program.

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<sup>47</sup> Editorial from the New York Times, reprinted in the Toronto Globe and Mail, editorial page, 15 July 1963.

To be subtracted, however, was the violent impact of the "Affair AVRO ARROW", with both its negative economic effect and the harmful technological effect of losing whole teams of highly skilled specialists.

Finally the increased interest of United States investors in Canada must be added.

In toto, it would appear that NORAD had an "order of magnitude" impact on the whole Canadian economy which was generally to the good.

## CHAPTER IX

## THE EFFECT OF NORAD ON THE NORTH

## 1. General Nature.

"One thing you've heard about the North that no one's likely to dispute--it's big. It's very big. It's more than a third of all Canada<sup>1</sup>". The Department of Northern Affairs pamphlet which makes the statement above, goes on to say that". . .we Canadians may be the last generation in the world's long history to see unknown lands opened for development by man<sup>2</sup>". These lands of the North total a million-and-a-half square miles of forest, bush, tundra and ice.

This Far North presented great logistical problems to military planners, and it was thus to the south of this area that the earliest part of NORAD was installed. There they built the Pinetree Line, beginning in 1952 before the continental defence cooperation had even received its formal title. Then right through the Cree Indian country in 1955 the Mid-Canada Line was started, on the edge of the North Country. Finally in 1957 the Distant Early Warning Line construction in the true Far North commenced.

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1 Anonymous pamphlet entitled "The North Is a Frontier," published by the Department of Northern Affairs and National Resources, undated, procured from the United States Legislative Reference Service on 11 August 1961, p. 1.

2 Ibid.

## 2. The Area--Size, Description and Climate.

To understand properly how NORAD affected this area, its sheer immensity must be properly comprehended. If you travel from the Canadian-United States border north to Edmonton, the farthest north Canadian city of over 5,000 population, you cover 300 miles. If you continue another 1,000 miles straight on, you will be near Coppermine on the shore of the Arctic Ocean. If you again face to the north, half the length of Canada will still be in front of you<sup>3</sup>.

This vast area is divided into two parts by the tree-line, running diagonally from the northwest at the mouth of the Mackenzie River, southeast to the corner of Manitoba and Hudson Bay near Fort Churchill. Beyond this line to the north there are no trees, only rocks, lakes, hills, and muskeg. As for the climate in the Far North, there is very little snow or rain, and in the sense of "an arid plain almost devoid of rainfall, this is one of the world's biggest deserts"<sup>4</sup>.

The temperature in the area ranges from the extreme cold which one would expect, to 80°F. above zero in the summer at Aklavik, the largest settlement in the Arctic, located near the mouth of the Mackenzie River.

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3 Ibid.

4 Ibid., p. 2.

### 3. Transportation.

The construction of the Distant Early Warning Line (Dew Line) greatly increased the sea travel into the Arctic waters. In April 1957 the Prime Minister, in replying to a question from Mr. Green, stated that when arrangements were being made for the construction for the Distant Early Warning Line, Canada and the United States agreed that the United States should be responsible for the sea supply of the Dew Line while it was being built. He stated that because of the amount of material involved and urgency of the operation, a large number of special vessels would be required which Canada was not in a position to supply. Canada stated at the time of the agreement, however, that once the line was in operation she might want to assume the responsibility of the annual re-supply in the summer months. The Prime Minister explained that arrangements had already been set up for the Northern Transportation Company to re-supply the western part of the Dew Line beginning in the summer of 1958. As for the eastern portion of the line, discussions were under way to see if the Department of Transport could assume responsibility for that in connection with their other responsibilities in the Arctic. He continued, the United States Navy had been sending two convoys into the Canadian Arctic during the past two summers. Their task was to supply all

the United States installations in the North. The number of ships was large, but only a portion of each convoy was actually entering Canadian waters. Canada was always well represented on the convoys with official government representatives and technical observers working with the commander of each force. He said that Canada was always consulted before each convoy was sent<sup>5</sup>.

In 1958 HMCS Labrador, an icebreaker, was undergoing refit to transfer to the Department of Transport from the Navy. It was to have a transport crew of 85 instead of the naval complement of 200. The Minister of Transport stated that there were other means of accomplishing the military patrol of the Northern waters, and that it was felt that more efficient and more general employment could be found for the icebreaker, Labrador, under the Department of Transport<sup>6</sup>.

Other water-borne traffic came from the Great Slave Lake by barge down the Mackenzie River to Mackenzie Bay with a consequent development of Tuktoyaktuk which was of importance to the Far North. In 1959 the Department of Transport took over the last segment of the sea supply for the Dew

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5 L. Pearson, Hansard, 6 April 1957, p. 3186.

6 Hees, Minister of Transport, Hansard, 7 January 1958, p. 2823.

Line. This was done through the agency of the Northern Transportation Company, a subsidiary of Eldorado, a Uranium Corporation. This company supplied the stations in the central region, and the Transportation Department itself became the coordinator for the Foxe Basin area to the east on Baffin Island. The Minister of Transport said that the United States Government Agencies with which the Department worked had expressed unqualified approval of the capability displayed by Canadian resources and equipment, both governmental and commercial. As a result of this, the Minister of Transport said, the Canadian Government had agreed that the Transport Department would extend its responsibility to those radar stations on the east coast of Baffin Island<sup>7</sup>.

Not only sea transport but air transport greatly increased due to the NORAD activity. As part of the United States Arctic research program during 1960-1961 the Canadian Aero Service Limited became involved in this activity. The major purpose of the particular project was to identify, to locate accurately, and to carry out "preliminary terrain analysis of most of the promising ice-free natural landing sites within the Canadian Arctic, north of the 65th parallel". The study was based on an examination of aerial photographs taken by the Royal Canadian Air Force which were

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7 Hees, Op. Cit., 10 June 1959, p. 4521.

readily available to the general public through the Department of Mines and Technical Survey. The survey revealed that there were some 50 sites within the area where landing strips could be readily developed. The results of the study had been made available to the Canadian government and through the Department of National Resources and Northern Affairs to interested commercial companies. As of 1962, however, there were no plans for the development or utilization of these possible landing strips<sup>8</sup>.

That same year the Department of Transport was to take over the operation and maintenance of the United States Air Force Airstrip at the Cambridge Bay station. In addition the Department was considering the possibility of taking over other sites such as Cape Dyer, Hall Lake, Cape Parry and Tuktoyaktuk<sup>9</sup>.

In addition to air and sea transportation, there was new interest in overland routes. Greater use was made of the railway to Fort Churchill on Hudson Bay, and there was increased traffic on the road going from Peace River to Hay River on the Great Slave Lake. There was also some highway discussion in 1957 when M. A. Hardie asked the Minister

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8 Hees, Op. Cit., 5 March 1962, p. 1464.

9 Hees, Op. Cit., 10 June 1959, p. 4523.

of Northern Affairs and National Resources whether he would consider the possibility of conferring with the Minister of National Defence and the United States authorities on the advisability of both countries participating in construction of a road from Hay River, North West Territories, to Tree River on the Arctic Coast to serve the Distant Early Warning Line<sup>10</sup>. The Minister gave assurance "that anything that could be done to enhance the opportunity and increase development of the North West Territories would certainly be considered by the Government<sup>11</sup>".

Thus throughout the period beginning in 1956, when the surveys and construction of the Distant Early Warning Line began, there was greatly increased interest and traffic in the Far North by sea along the coasts, by barge down the Mackenzie River from Great Slave Lake, by rail to Fort Churchill, and by road to Peace River to Hay River and to the Great Slave Lake. In addition, the air traffic increased enormously, with surveys for possible landing sites and actual construction of landing sites, particularly emergency landing strips and resupply strips at the Dew Line sites and the Mid-Canada Line sites. These latter are still used in

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<sup>10</sup> M. A. Hardie, Liberal Member from Mackenzie River, Hansard, 18 November 1957, p. 1614.

<sup>11</sup> Minister of Northern Affairs and Natural Resources, Hansard, 18 November 1957, p. 1614.

emergencies, although the western half of the line was shut down in January 1964, and the eastern half from Hudson Bay to Labrador ceased operation on 31 March 1965<sup>12</sup>.

Communications throughout the area also had a tremendous boom. Not only were the main NORAD communications systems established to communicate back to the defence centers, but each site added to the emergency communication chain for downed aircraft or lost travellers in the northern wilderness. In addition all aircraft were able to benefit by the navigation aids, including the TACAN system, which was put in for the NORAD and the Strategic Air Command aircraft for use when they were flying over the vast northern area.

In addition to all the above there were two other agencies which benefitted from the "NORAD-engendered" interest. The first was the Bureau of Mines and Technical Surveys, which speeded up their mapping. They first utilized their oblique photos and vertical photos, and by refinements finally derived maps far more accurate than any theretofore available<sup>13</sup>. In addition the Hydrographic Office benefitted from the greatly increased interest by having the icebreaker

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12 P. Hellyer, Minister of Defence, in Newspaper article entitled "Canada Scraps Warning Setup", The Washington Post, 3 April 1965, p. 1.

13 Graham Rowley, Massey Medal winner, information gathered from an interview, 4 March 1963.

## THE EFFECT OF NORAD ON THE NORTH

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Labrador survey the Bellot Strait in order to determine whether its use was safe for the supply ships en route to the Dew Line. They also gained information from the more numerous ships plying the Arctic waters.

#### 4. The Population in General.

This tremendous area of the North, for all its size and potential, is nearly devoid of people. Four out of five of all Canadians live within 150 miles of the United States border. In all of the North there are only some 25,000 people. Of these 7,000 to 8,000 are Eskimos and another 8,000 are Cree Indians<sup>14</sup>. When one flies over this vast area in the daytime there are seldom any signs of habitation. At night it is a very rare thing to see any type of light, only bush, barrens, and endless space.

#### 5. The Effect of NORAD on the Indian Population of the North.

As was pointed out in the Toronto Globe and Mail, in 1963, there are some 200,000 Indians living in Canada. Of these three-quarters live on the hundreds of Indian

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<sup>14</sup> Anonymous, "The North is a Frontier", Department of Northern Affairs and National Resources, obtained from the United States Legislative Reference Service on 11 August 1961, p. 2.

Reserves which vary in size from a few acres to as much as five hundred square miles each. Those Indians we are interested in, however, are the 8,000 who were basically hunting, fishing, and trapping in the North at the time of the installation of NORAD<sup>15</sup>.

An excellent source of information on the effect of NORAD on the Cree Indians is given by the case of the Cree Indians of Winisk, Ontario<sup>16</sup>. The village of Winisk is located on Hudson Bay where the north-flowing Winisk River empties into the Bay. The village population at the time of the study consisted of approximately 150 Indians living in about 30 households. There were also three employees of the Hudson Bay Company, a priest and a lay brother of the Roman Catholic mission, and in the summer several job-seeking Indian males from Severn, the closest settlement, 100 miles away to the northwest.

Cree Indians in this part of the Hudson Bay area have been in contact with Western Civilization for more than 200 years. Until the network of trading posts was established, the contact was sporadic. Sustained contact began with a

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15 A. E. Hughes, in an article entitled "Canada's Indians in Transition", Toronto Globe and Mail, 15 July 1963.

16 C. I. Fairholm, Senior Administrative Officer, Indian Affairs Branch, Department of Citizenship and Immigration, information enclosed in a letter to G. B. Moore, 3 April 1964.

permanent trading post in 1901, and a permanent Roman Catholic mission in 1924. In 1930 regular relations were established with the Federal Government through agents. In 1948 agents of the Ontario Provincial Government began to appear regularly. In 1955 the beginnings of a radar base were established five miles from Winisk across the river<sup>17</sup>.

Prior to the construction of the radar base the pattern of Indian life followed that of a hunting and trapping economy. Each family group had its own trap line area and was self-sufficient, operating in comparative isolation for most of the year. In late September family groups left the post by canoe taking with them the people, dogs, implements and food staples out to the trap lines. Once the camp was set up for the winter, the men and older boys trapped beaver, mink and otter, hunted caribou and moose, and maintained equipment. The women prepared the meals, collected and sawed firewood, cared for the children, skinned animals, stretched the skins, tended fish nets and rabbit snares, and if they had time, trapped near the cabin or the tent. At Christmas or Easter all the members of the several families would come back to Winisk in order to sell their furs and

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17 E. Liebow and John Trudea, "A Preliminary Study of Acculturation Among the Cree Indians of Winisk, Ontario", published in Arctic, 1962, p. 190-214.

pick up more supplies and food staples and to attend religious ceremonies. This went on ordinarily from September to late May, an isolation period by family for some nine or ten months. During their two or three summer months at the post, the men did a little hunting plus odd jobs for the Indian agent; while the women did their regular household chores, mended fishnets, and carried out social activities with the other families. Most of the Indians regularly attended morning and evening prayers. Couples planning to marry, usually married on Sunday during the summer period. Then in late June or early July the whole settlement would observe a week-long annual religious retreat. Thereafter the families would usually go camping along the coast of Hudson Bay, fish and hunt and return again to the post in early September. They would haul supplies from the store to the supply boat for the Hudson Bay Company and prepare to return to their winter trap lines<sup>18</sup>.

With the establishment of the radar base this cycle of going out to the winter trap lines, followed by the short period of return to the summer meeting place changed; and now most of the families reside in what has become a Cree village. Not only the annual cycle has changed but the daily

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18 Ibid.

schedule is different. The work day at the radar base began at seven-thirty in the morning. The Indians would leave the village one hour early to make the five-mile canoe trip plus the one-mile walk. At the peak of the construction period, which ran from 1955 to 1957 there were more than 700 white laborers in the area. The Indians would report each morning to either the Bell Telephone Company or the construction maintenance unit of the Royal Canadian Air Force. The Indians were usually paid \$1.20 per hour plus time-and-a-half after 40 hours. A 75-hour work week was not uncommon. However, by the summer of 1958 the Indians' wage earnings had dropped off sharply; many were laid off, and those who were retained worked a 54-hour week. Most of the Indians were employed as common laborers, collecting trash or garbage, or generally cleaning up and collecting debris.

For the majority of the grown women the daily round of life changed less radically. For the most part the old summer routine then became a year-round pattern. Her work day revolved around the house and the children. The women and older girls hauled water from the river, prepared firewood, and watched over the children. In addition the women, the children, and the older unemployed men would make daily expeditions out to the radar base dump to get food from the garbage and to collect other discarded items which might be useful, such as broken chairs or packing crates or damaged

steel cots. The girls and women were forbidden on the base but some would come to the dump to make contact with the white workers. On Saturday nights there would be an air of excitement. There would be home brew drinking, which was illegal, and dancing which was forbidden by the missionary. Some of the white men would come over from the base. On Sunday morning, people in the village would dress in their best clothes for mass, and the base doctor would come to the village to hold a clinic after the morning religious ceremony<sup>19</sup>.

It is interesting to note that prior to the installation of this Mid-Canada Line radar base, the contacts with the white people, by the missionary and the government agent, had served to reinforce rather than alter the established pattern of Indian life. The radar base, however, transformed the Indian male from a hunter and fisherman into a wage earner. For the family, instead of being turned inward on itself as it had been most of the year on the trap lines, it was now part of a village. The family remained the basic social unit, but it was an integral part of a larger community. For the children, school was now an important part of their lives. This thinning out of the family relationship affected the senior male more than anyone else. On the trap

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19 Ibid.

line he had been the acknowledged leader of the group, and his skills had a great deal to do with the family income as well as his social rank and prestige. As a day-laborer at the radar base he was usually paid the same as his grown sons or as any incompetent hunter. The old leadership hierarchy was broken down.

For the community as a whole, new problems showed up. It appears that after 1955 there was increased drunkenness, lying, stealing, and contacts between the young girls and unmarried women and the men at the radar base. Disciplinary control by government agents and law enforcement on the whole had become more difficult.

In compensation for some of the disadvantages, however, the Indian now feels that he has the added security of knowing that he will not starve during an unusually hard winter in this village life, as he might have done in a trapping camp; and he has reduced anxieties about sickness and accident because of the medical help at the radar base. In addition to these special services available in the village he also appears to appreciate the broadened range and intensity of the social interaction and the general excitement of living in a community<sup>20</sup>.

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20 Ibid.

## 6. The Effect of NORAD on the Eskimos.

A brief version of the effect NORAD had on the Eskimos of the North Country was foretold in the reply in Parliament to a question by Mr. M. Hardie<sup>21</sup> in 1960. He had asked about fraternization between Eskimos and personnel stationed on the Distant Early Warning Line. The reply stated that the Federal Electric Corporation, which was operating the Line under government contract, was bound contractually to abide by the agreement provisions of May 5, 1955 between the governments of Canada and the United States. This agreement governed the establishment of the Distant Early Warning Line in Canada. In one part it provided, at the request of the Department of Northern Affairs and National Resources, "that contact with Eskimos other than those employed on any aspect of the project is to be avoided except in cases of emergency<sup>22</sup>".

The reason for restricting contact was to reduce to a minimum the disruption of the primitive, but quite adequate, Eskimo economy and to keep at a minimum the exposure of these people to foreign diseases to which their immunity was often

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21 M. Hardie, Liberal Member from Mackenzie River, Hansard, 19 January 1960, p. 87.

22 The Minister of Northern Affairs, Hansard, 19 January 1960, p. 87.

very low. In addition it was foreseen that there would be a generally corrosive effect if large numbers of single men living in a barracks-type atmosphere began to mix intimately with smaller groups of people living as family units<sup>23</sup>.

A year later, in 1961, the Minister of Northern Affairs stated that conditions in the Arctic had changed during the years since the agreements were made in 1955. He said that all government departments which had employees in the North were contacted by letter in 1959 with regard to relations with the indigenous population. He gave assurance that there was no longer any attempt to curtail fraternization. He said that a number of members of his own department, both male and female, had married Eskimos. He went on to add that these now-outdated clauses did not in any event apply to the Mid-Canada Line<sup>24</sup> which was further south.

An account written a year later gave vivid illustration of the situation along the Arctic coast of the continent. It told of a three-mile long road which linked the Dew Line station at Cape Parry with an Eskimo village. The ends of that road portrayed the contrast between the 20th century and the Stone Age. The Eskimos at one end lived and

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23 Ibid.

24 The Minister of Northern Affairs, Hansard, 22 May 1961, p. 5145-5146.

worked just as their ancestors had always done. They and the men at the "station" were both hunters, but there the similarity ended. The Eskimos hunted "furred, finned or feathered creatures of the Arctic area<sup>25</sup>"; the Dewliners hunted for blips of light on their radar scopes. Any blips sighted meant that aircraft had entered their Distant Early Warning Identification Zone.

The Royal Canadian Air Force men and the United States Air Force men stationed there served twelve-month tours. The civilian Federal Electric Corporation men were hired for eighteen months at a time; whereas the Eskimos who worked at the sites did so indefinitely. Much of the outdoor work at the Dew Line sites such as driving vehicles was accomplished by the local Eskimos. They proved to be very adept at both driving and servicing the trucks and snow-mobiles<sup>26</sup>, and this on-the-job training served as excellent indoctrination for joining the twentieth century civilization which must ultimately surround them. In return they helped the newcomers to master the hostile environment of the North, especially how to survive in emergencies at low temperatures and high wind conditions.

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25 Flight Lieutenant T. G. Coughlin, article "Manning the Dewline" in the Roundel, June 1962, p. 16-17.

26 Ibid.

The Eskimos began to see planes regularly, to hear radios regularly and to get an inkling of the outside world and its international and political problems which had never swum into their ken before. It has been stated that many of the older generation of Eskimos will never be able to fit into today's wage employment structure<sup>27</sup>. The younger Eskimos, however, are taking readily to our mechanical arts as they demonstrated on the DEW Line, and they are working more and more in government departments, defence establishments, and in private companies. So far, however, only one quarter of the 12,000 Eskimos are in close contact with the twentieth century. In spite of the acceleration given by NORAD the other 9,000 still "live in the harsh land outside the main centres of economic and government activity"<sup>28</sup>.

#### 7. Summary

The overall effect of NORAD on the Canadian Far North may be described as a montage of many varied lesser effects. The cold winters and short summers remained unchanged. However, as NORAD gradually required more and more white men to venture into and to endure the Far North they learned by experiment, by study and from the Eskimo and Cree

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27 "Canada's Native People", The Royal Bank of Canada Monthly Letter, Vol. 47, No. 2, February 1966, p. 3.

28 Ibid.

Indian how best to survive and to operate in that severe environment.

More detailed explorations became necessary. Radio communication links were extended and cross-netted. The interference effects of the aurora borealis became better known. Road, rail, barge and especially air transportation were greatly expanded.

The Indian and the Eskimo were confronted more closely with modern civilization with the result that their old cultures tended to modify toward the twentieth century, and their health and physical well-being tended to improve. Whether these benefits will outweigh the problems caused by the loss of authority and prestige of the father of the family, plus the increase in drunkenness and thievery, only the future will reveal. In any event the Indian and Eskimo are being more rapidly brought into the main stream of Canadian and Alaskan life, this time as equals, with rights of intermarriage and broad employment and education opportunities.

## SUMMARY AND CONCLUSIONS

In summary, the North American Air Defense Command (NORAD) is a culmination of four centuries of relations between the white inhabitants of the Canadian area and those of the area now known as the United States. The relationships progressed from the hostility of long ago to the military alliance of today. In its latest form it can be attributed in part to each of the following: the Ogdensburg Agreement of 1940, the close Canadian-United States cooperation throughout World War II, the United Nations Organization, the North Atlantic Treaty Organization, and the diplomatic note of 1958 which finally formalized the North American Air Defense Command.

NORAD has operated throughout as a single command under the senior officer present at the headquarters, regardless of whether he were Royal Canadian Air Force or United States Air Force. At its peak strength the Command consisted of over two hundred thousand personnel, with a slightly smaller total in 1967. In 1959 it consisted of 69 manned interceptor squadrons, 9 of which were Canadian; and 61 batteries of NIKE air defence missiles, mostly NIKE AJAX. By 1967 the number of aircraft squadrons had dropped, but there were 110 batteries of the improved NIKE HERCULES missiles plus several Canadian and United States BOMARC squadrons and several low-altitude HAWK missile batteries. Still to come

## SUMMARY AND CONCLUSIONS

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were the defences against enemy inter-continental ballistic missiles: the NIKE ZEUS and the SPRINT missiles. The complete system was being controlled more and more by the computerized Semi-Automatic Ground Environment (SAGE) System based on information from the radar defences known as BMEWS, DEW, and the networks deep in Canada and the United States.

The effect of this immense system on Canadian politics was highlighted by the nuclear weapon question in general and the BOMARC missile system in particular. Both the Liberals and the Conservatives were involved in having Canada join NORAD, and each strove to make political capital out of the mistakes, or commitments of members of the other party. The smaller parties, particularly the Cooperative Commonwealth Federation, which became the New Democratic Party during the years of contention over NORAD, found the nuclear issue and the defence expenditures for BOMARC to be ready-made subjects for severe criticism of the party in power. The political highlight of the era was the violent election of 1963 in which the defeat of the Conservative Party and the return to power of the Liberals pivoted to a great extent on the nuclear-NORAD issue.

The international flavor of the election came from the United States when Prime Minister Diefenbaker revealed in public certain defence matters which the Administration in the United States reported it had revealed to him as privi-

## SUMMARY AND CONCLUSIONS

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leged information. As could have been expected, an immediate furor ensued. In addition the long hesitation of Canada on whether to accept nuclear warheads for its weapons became a matter of international concern when it appeared that the lack of such weapons might leave a gap in the NORAD defences of the continent. Also, periodically the sensitive matter of sovereignty was debated in connection with the commander of NORAD. Over the years, however, it has appeared that the close military cooperation of the two nations has acted as a stabilizing influence in Canadian-United States relations; and growing numbers of the two peoples have come to know and respect each other because of the military or defence production activities connected with NORAD.

The effect on the Canadian economy was ramified and difficult to trace. However, in the local areas where new installations were built or old ones enlarged, the effects of the numerous construction and service-type jobs and of the military payrolls spent in the area were plain to see. The economic boosts of contracts and subcontracts for military hardware and for transportation of items to the sites were obvious. The larger defence appropriations in Canada and the monies spent in Canada by the United States are either already on record or are becoming available to the public. It appears that while there was no massive upheaval of the Canadian economy which was directly traceable to NORAD

## SUMMARY AND CONCLUSIONS

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there was over the ten-year period from 1957 to 1967 a healthy influx of money along with the provision of such a wide variety of types of employment that the economy was strengthened year after year. Finally, in the Far North, the country was explored more quickly and thoroughly than would have been necessary if NORAD had not been required. Communications and transportation increased by leaps and bounds. The ensuing publicity and the return of men who had seen the North Country aroused renewed interest in the United States public, with consequent increased investment and development. Many Cree Indians and Eskimos were catapulted into the twentieth century, for better or for worse; and they began to receive new understanding and benefits from the mass of Canadians to their south.

All in all, NORAD aroused interest, caused political conflict in both internal and international arenas, boosted the Canadian economy over a period of years, and accelerated the opening of the great Canadian Far North. NORAD has been, since its formal birth in 1958, a changing and evolving organization. In 1967 this characteristic is still evident, and it appears that current political controversy over ballistic missile defence may presage future years much like those just completed.

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-----, Hansard, 14 September 1961, p. 8355-8358.  
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-----, Hansard, 29 January 1962, p. 304.  
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APPENDIX 1

The Ogdensburg Agreement

As set forth in The New York Times of 19 August 1940, Section I, p. 1, col. 3 and p. 7, col. 3, 4, 5, 6.

Agreement by President  
and Prime Minister  
Reached at Border

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NEW STEP IN OUR POLICY

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Sea, Land and Air Problems  
Will be Studied as Applied to  
'North Half' of Hemisphere

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By CHARLES HURD  
Special to The New York Times.

EN ROUTE WITH PRESIDENT ROOSEVELT TO HYDE PARK, N.Y.,  
Aug. 18--President Roosevelt and Prime Minister Mackenzie  
King have agreed to establish a permanent Joint Board on De-  
fense, to consist of four or five members each from Canada  
and the United States, with a start in its deliberations  
planned for an early date.

Permanent and active collaboration on all defense  
matters between the United States and the Dominion is antici-  
pated as a result of this first step.

Announcement of the agreement came at the end of an  
overnight visit of the most informal character during which

the President and the Prime Minister conferred in Mr. Roosevelt's private car while it stood on a siding in the village of Heuvelton, N. Y., within sight of the St. Lawrence River.

The engagement, which potentially has far more importance than many formal treaties, marks not only the first mutual defense agreement made between the United States and Canada, but is also extraordinary in view of the fact that this country, while at peace, seeks to cement an effective union with a country actively at war.

While dramatic in itself and in the speed with which it was made, even greater emphasis was given to the agreement by the fact that President Roosevelt concluded it immediately after reviewing a concentration of almost 100,000 soldiers engaged in mimic warfare in the vicinity of Ogdensburg.

#### STATEMENT ON AGREEMENT

Announcement of the agreement was contained in a White House statement, issued on the train, which read as follows:

The Prime Minister and the President have discussed the mutual problems of defence in relation to the safety of Canada and the United States.

It has been agreed that a Permanent Joint Board on Defense shall be set up at once by the two countries.

This Permanent Joint Board on Defense shall commence immediate studies relating to sea, land and air problems including personnel and material.

## APPENDIX 1

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It will consider in the broad sense the defense of the North half of the Western Hemisphere.

The Permanent Joint Board on Defense will consist of four or five members from each country, most of them from the services. It will meet shortly.

This statement constituted the only White House comment on the agreement, but its very brevity served to emphasize its potentialities. The proposed "joint studies" indicate plans for possible future joint operation or, at the least, cooperative action. And the experience of this country in mobilizing its defenses in the past few months demonstrates the wide sweep of organization and controls involved in providing "material" for a modern defensive force.

Further importance was attached to the agreement by the fact that it followed by only forty-eight hours an announcement by President Roosevelt that he was consulting with Great Britain on the subject of obtaining sea and air bases for the United States in the Western Hemisphere, and that he was also discussing defense matters with Canada.

. . . . .

Canadian Capital Jubilant  
Special to The New York Times.

OTTAWA, Aug. 18--The agreement reached over the weekend between Prime Minister W. L. Mackenzie King and President Roosevelt to establish a joint board to deal with defense

## APPENDIX 1

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problems, was enthusiastically received in Canada's capital.

The Prime Minister returned this afternoon and by evening Ottawa was buzzing with the news.

The agreement is particularly welcome on two main points:

1. Planning for joint defense now instead of waiting for a possible emergency removes the danger of a tragedy such as that suffered by Belgium and Holland being repeated. These two countries waited until it was too late to plan for defense.

2. The agreement removes the feeling against the Monroe Doctrine that has for a long time existed in Canada.

It has been felt here that no self-respecting country could rely on the protection of another nation without offering something in return. Whatever obligation there is under the plan is a mutual obligation.

Canadian news writers described the Ogdensburg agreement as a modernized Monroe Doctrine.

Governor General Is Informed  
By the Canadian Press

OTTAWA, Aug. 18--Prime Minister Mackenzie King returned to Ottawa this afternoon from his overnight conference with President Roosevelt and reported at once to the Earl of Athlone.

It was assumed the Prime Minister's call at Rideau Hall was to acquaint the Governor General of the agreement reached with President Roosevelt.

. . . . .

APPENDIX 2

COMPLETE TEXT OF

AGREEMENT

between

THE GOVERNMENT OF CANADA

and

THE GOVERNMENT OF THE UNITED STATES OF AMERICA

concerning

THE ORGANIZATION AND OPERATION OF THE NORTH  
AMERICAN AIR DEFENCE COMMAND (NORAD).

Signed at Washington, May 12, 1958.

## APPENDIX 2

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CANADIAN EMBASSYWASHINGTON, D.C.

NO. 263

May 12, 1958.

Sir,

I have the honour to refer to discussions which have taken place between the Canadian and the United States authorities concerning the necessity for integration of operational control of Canadian and United States Air Defences and, in particular, to the study and recommendations of the Canada-United States Military Study Group. These studies led to the joint announcement of August 1, 1957, by the Minister of National Defence of Canada and the Secretary of Defense of the United States, indicating that our two Governments had agreed to the setting up of a system of integrated operational control for the air defences in the continental United States, Canada and Alaska under an integrated command responsible to the Chiefs of Staff of both countries. Pursuant to the announcement of August 1, 1957, an integrated headquarters known as the North American Air Defence Command (NORAD) has been established on an interim basis at Colorado Springs, Colorado.

For some years prior to the establishment of NORAD, it had been recognized that the air defence of Canada and the United States must be considered as a single problem. However, arrangements which existed between Canada and the

United States provided only for the coordination of separate Canadian and United States air defence plans, but did not provide for the authoritative control of all air defence weapons which must be employed against an attacker.

The advent of nuclear weapons, the great improvements in the means of effecting their delivery, and the requirements of the air defence control systems demand rapid decisions to keep pace with the speed and tempo of technological developments. To counter the threat and to achieve maximum effectiveness of the air defence system, defensive operations must commence as early as possible and enemy forces must be kept constantly engaged. Arrangements for the coordination of national plans requiring consultation between national commanders before implementation had become inadequate in the face of a possible sudden attack, with little or no warning. It was essential, therefore, to have in existence in peacetime an organization, including the weapons, facilities and command structure which could operate at the outset of hostilities in accordance with a single air defence plan approved in advance by national authorities.

Studies made by representatives of our two Governments led to the conclusion that the problem of the 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

## APPENDIX 2

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available for the air defence of the two countries. Furthermore, the principle of an integrated headquarters exercising operational control over assigned forces has been well established in various parts of the North Atlantic Treaty area. The Canada-United States region is an integral part of the NATO area. In support of the strategic objectives established in NATO for the Canada-United States region and in accordance with the provisions of the North Atlantic Treaty, our two Governments have, by establishing the North American Air Defence Command recognized the desirability of integrating headquarters exercising operational control over assigned air defence forces. 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.

The two Governments consider that the establishment of integrated air defence arrangements of the nature described increases the importance of the fullest possible consultation between the two Governments on all matters affecting the joint defence of North America, and that defence cooperation between them can be worked out on a mutually satisfactory basis only if such consultation is regularly and consistently undertaken.

In view of the foregoing considerations and on the basis of the experience gained in the operation on an interim basis of the North American Air Defence Command, my Govern-

ment proposes that the following principles should govern the future organization and operations of the North American Air Defence Command.

- 1) The Commander-in-Chief NORAD (CINCNORAD) will be responsible to the Chiefs of Staff Committee of Canada and the Joint Chiefs of Staff of the United States, who in turn are responsible to their respective Governments. He will operate within a concept of air defence approved by the appropriate authorities of our two Governments, who will bear in mind their objectives in the defence of the Canada-United States region of the NATO area.
- 2) The North American Air Defence Command will include such combat units and individuals as are specifically allocated to it by the two Governments. The jurisdiction of the Commander-in-Chief, NORAD, over those units and individuals is limited to operational control as hereinafter defined.
- 3) "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 air 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.

4) 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, and CINCNORAD staff shall be an integrated joint staff composed of officers of both countries. During the absence of CINCNORAD, command will pass to the Deputy Commander.

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

6) The plans and procedures to be followed by NORAD in wartime shall be formulated and approved in peacetime by appropriate national authorities and shall be capable of rapid implementation in an emergency. Any plans or procedures recommended by NORAD which 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 inter-governmental coordination.

7) Terms of reference for CINCNORAD and his Deputy will be consistent with the foregoing principles. Changes in these terms of reference may be made by agreement between the Canadian Chiefs of Staff Committee and the United States 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.

8) The question of the financing of expenditures connected with the operation of the integrated headquarters of the North American Air Defence Command will be settled by mutual agreement between appropriate agencies of the two Governments.

9) The North American Air Defence Command shall be maintained in operation for a period of ten years or such shorter period as shall be agreed by both countries in the light of their mutual defence interests, and their objectives under the terms of the North Atlantic Treaty. The terms of this Agreement may be reviewed upon request of either country at any time.

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10) The Agreement between parties to the North Atlantic Treaty regarding the status of their forces signed in London on June 19, 1951, shall apply.

11) The release to the public of information by CINCNORAD on matters of interest to Canada and the United States of America will in all cases be the subject of prior consultation and agreement between appropriate agencies of the two Governments.

If the United States Government concurs in the principles set out above, I propose that this Note and your reply should constitute an Agreement between our two Governments effective from the date of your reply.

Accept, Sir, the renewed assurances of my highest consideration.

"N.A. Robertson"

Ambassador of Canada.

The Honourable John Foster Dulles,  
Secretary of State of the United  
States, Washington, D. C.

## APPENDIX 2

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DEPARTMENT OF STATE  
WASHINGTON, D.C.

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May 12, 1958.

Excellency,

I have the honour to refer to Your Excellency's Note No. 263 of May 12, 1958 proposing on behalf of the Canadian Government certain principles to govern the future organization and operation of the North American Air Defence Command (NORAD).

I am pleased to inform you that my Government concurs in the principles set forth in your Note. My Government further agrees with your proposal that your Note and this reply shall constitute an agreement between the two Governments, effective today.

Accept, Excellency, the renewed assurances of my highest consideration.

"Christian A. Herter"  
for the Secretary of State.

His Excellency Norman Robertson,  
Ambassador of Canada.

APPENDIX 3

THE FIRST FIVE ARTICLES OF THE  
NORTH ATLANTIC TREATY

Washington, D. C., 4 April 1949<sup>1</sup>

The Parties to this Treaty reaffirm their faith in the purposes and principles of the Charter of the United Nations and their desire to live in peace with all peoples and all Governments.

They are determined to safeguard the freedom, common heritage and civilization of their peoples, founded on the principles of democracy, individual liberty and the rule of law.

They seek to promote stability and well-being in the North Atlantic area. They are resolved to unite their efforts for collective defence and for the preservation of peace and security.

They therefore agree to this North Atlantic Treaty:

Article 1

The Parties undertake, as set forth in the Charter of the United Nations, to settle any international dispute in which they may be involved by peaceful means in such a manner that

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1 The Treaty came into force on 24 August 1949, after the deposition of the ratifications of all signatory states.

## APPENDIX 3

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international peace and security and justice are not endangered, and to refrain in their international relations from the threat or use of force in any manner inconsistent with the purposes of the United Nations.

Article 2

The Parties will contribute toward the further development of peaceful and friendly international relations by strengthening their free institutions, by bringing about a better understanding of the principles upon which these institutions are founded, and by promoting conditions of stability and well-being. They will seek to eliminate conflict in their international economic policies and will encourage economic collaboration between any or all of them.

Article 3

In order more effectively to achieve the objectives of this Treaty, the Parties, separately and jointly, by means of continuous and effective self-help and mutual aid, will maintain and develop their individual and collective capacity to resist armed attack.

Article 4

The Parties will consult together whenever, in the opinion

## APPENDIX 3

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of any of them, the territorial integrity, political independence or security of any of the Parties is threatened.

Article 5

The Parties agree that an armed attack against one or more of them in Europe or North America shall be considered an attack against them all, and consequently they agree that, if such an armed attack occurs, each of them, in exercise of the right of individual or collective self-defence recognized by Article 51 of the Charter of the United Nations, will assist the Party or Parties so attacked by taking forthwith, individually and in concert with the other Parties, such action as it deems necessary, including the use of armed force, to restore and maintain the security of the North Atlantic area.

Any such armed attack and all measures taken as a result thereof shall immediately be reported to the Security Council. Such measures shall be terminated when the Security Council has taken the measures necessary to restore and maintain international peace and security.

APPENDIX 4

Article 51 of the Charter of  
the United Nations

24 October, 1945

Nothing in the present Charter shall impair the inherent right of individual or collective self-defence if an armed attack occurs against a Member of the United Nations, until the Security Council has taken measures necessary to maintain international peace and security. Measures taken by Members in the exercise of this right of self-defence shall be immediately reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in order to maintain or restore international peace and security.

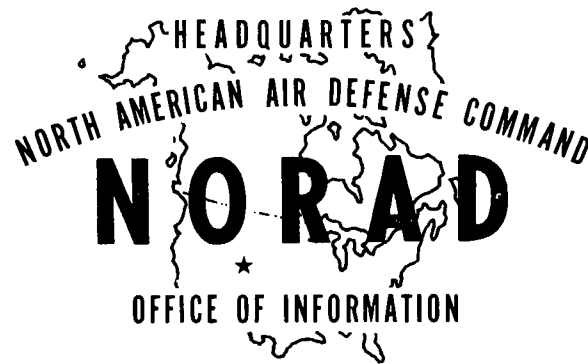
APPENDIX 5

Representative photographic  
illustrations  
of NORAD



COLORADO SPRINGS,  
COLORADO

Phone Melrose 5-8911  
Ext 2387



LIEUTENANT GENERAL ROBERT M. LEE, USAF  
COMMANDER, USAF AIR DEFENSE COMMAND

Robert Merrill Lee was born in Hinsdale, New Hampshire, on April 13, 1909. Shortly thereafter his parents returned to the family home in the state of Maine. He grew up and attended grade and high school in Augusta, Maine, before entering the United States Military Academy at West Point, New York. Upon graduation from the Academy he was awarded a B.S. degree in military science and commissioned a Second Lieutenant of Cavalry on June 11, 1931.

Lieutenant Lee then entered successively the Air Corps Primary Flying School at Randolph Field, Texas, and the Air Corps Advanced Flying School at Kelly Field, Texas, graduating from the latter in October 1932. The same month he was assigned to the 55th Pursuit Squadron of the 20th Pursuit Group at Barksdale Field, Louisiana.

In March 1937, he was assigned to the First Cavalry (Mechanized) at Fort Knox, Kentucky, and the following year returned to the U.S. Army Air Corps when assigned to the 12th Observation Squadron, also at Fort Knox. During 1939 and 1940, he was aide de camp to General Adna R. Chaffee, the Father of the Armored Force. During this period of his career, he assisted in the development of operations teamwork between air and ground forces. In 1940 Capt Lee attended the Air Corps Tactical School at Maxwell Field, Alabama. During 1941 he commanded the 12th Observation Squadron.

In late 1941 Major Lee became Chief of Corps Aviation, Headquarters I Armored Corps, and later Air Officer for Armored Force Headquarters. In 1942 Lt Colonel Lee organized and commanded the newly activated 73d Observation Group at Godman Field, Kentucky. In January of the following year (1943) he was promoted to Colonel and became Chief of Staff of the 1st Air Support Command at Morris Field, North Carolina. He continued in this position through successive reorganizations and redesignations of the command as the I Tactical Air Command.

In August 1944, Colonel Lee joined the Ninth Air Force in France where he served as Deputy Commanding General for Operations and shared responsibility for the defeat of Germany in four major campaigns: Northern France, the Rhineland, the Ardennes, and Central Europe. At the end of hostilities when the Ninth Air Force took up its occupation role, he served as Chief of Staff. Late in 1945, Brigadier General Lee was assigned to the Air Section of the Theater General Board as it completed its analyses and reports on the European campaigns at Bad Nauheim.

In January 1946, General Lee returned to the United States where he was assigned to the newly organized Tactical Air Command as its Chief of Staff at Langley Field, Virginia, where he remained until September 1946 when he entered the first class of the National War College. After graduation from the NWC, General Lee was assigned in July of 1947 to Tactical Air Command as Deputy Commanding General. During this assignment, in February 1948, he was promoted to Major General. From November, 1948 he served as Commanding General until July 1950.

From Langley Air Force Base, General Lee went to Eglin Air Force Base, Florida, and assumed command of Air Task Group 3.4, a special assignment which culminated in the atomic tests at Eniwetok during the spring of 1951. When this assignment was completed in July 1951, General Lee was named the Deputy Director of Plans under the Deputy Chief of Staff for Operations, Headquarters USAF, Washington, D. C., with simultaneous duty as the Air Force member of the Joint Strategic Plans Committee. Shortly thereafter he became the Director of Plans.

In November 1953, General Lee was assigned to command the Fourth Allied Tactical Air Force and the Twelfth United States Air Force in Europe. The former constituted the largest tactical Air Force in NATO, consisting of all United States, French and Canadian Air Forces on the continent of Europe committed to the Supreme Allied Commander. In June 1956, command of the two Air Forces was separated. General Lee retained command of the Allied TAF. When the General returned to the United States on July 25, 1957, he became Commander of the Ninth Air Force, Tactical Air Command, with headquarters at Shaw Air Force Base, South Carolina.

One year later on July 15, 1958 General Lee assumed his present rank of Lieutenant General and arrived at United Nations Command Headquarters, Seoul, Korea, to become Chief of Staff, United Nations Command and United States Forces, Korea. On September 1, 1959 he returned to the United States to become Vice Commander of the Air Defense Command in Colorado Springs, Colorado. On March 1, 1961, General Lee became the Commander of ADC.

His decorations include the Distinguished Service Medal, Legion of Merit, Bronze Star Medal, Air Medal and Commendation Ribbon. His foreign decorations include the French Legion of Honor in the grade of Chevalier and the Croix de Guerre with Palm; the Belgian Commander of the

Order of Leopold II with Palm and Croix de Guerre with Palm; Luxembourg Order of Merit of Adolphe of Nassau, Degree of Commander with Crown and Croix de Guerre; and Honorary Commander, Most Excellent Order of the British Empire.

He is a rated command pilot, combat and aircraft observer.

General Lee and his wife, the former Mary Hall Van Pelt of Montgomery, Alabama, have three sons: Richard William, Robert Merrill, Jr., and David H. Lee.

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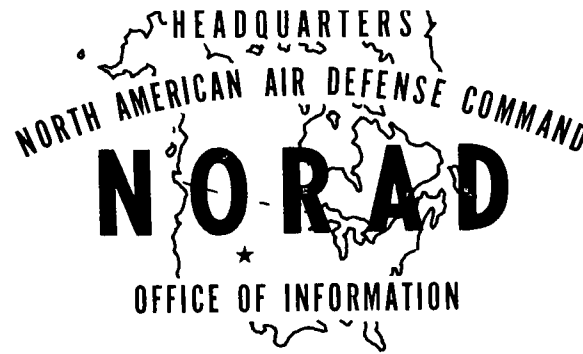


**MOUNTAIN PATROL -- Delta-winged F-102 fighter interceptors are framed by snow-capped mountains as they fly an identification mission as part of the North American Air Defense Command's vigil to protect Canadian and U.S. air space against enemy aggression. The veteran F-102, supplied to NORAD by U.S. Air Force Air Defense Command, has been on duty since 1956. Capable of flying in all types of weather, the Delta Dagger has a range of more than 1,000 miles and can fly above 50,000 feet as it covers vast areas of the NORAD defense system. Using air-to-air missiles, the supersonic jet is directed to its quarry by radar and unleashes its arsenal by means of an electronic fire control system that automatically prepares and fires when locked on target.**

**(NORAD PHOTO)**

**NEG #539-66-1**

**20067**



AIR MARSHAL C. R. SLEMON, RCAF

Air Marshal Slemon is the only member now serving of the Air Force's "originals" who is able to look back over continuous service from the creation of the Royal Canadian Air Force in 1924. Born in Winnipeg in 1904, he graduated with a Bachelor of Science degree in engineering from the University of Manitoba. He began his service career in the Army's Officer Training Corps, reaching commissioned rank of lieutenant. In 1923 he joined the Canadian Air Force, a year before it became a permanent force and took the prefix "Royal" to its name. In 1924 he won his pilot wings. His early service life included many years of flying in the Arctic and sub-Arctic on exploratory and air mapping operations, in areas where much air defense effort is increasingly directed.

A year's course at the RAF Staff College in England was followed on the outbreak of World War II by two years' service in coastal operations where he rose to command the RCAF Air Command on the Pacific Coast.

In 1942 he went overseas to organize the famed All-Canadian Bomber Group and for two and one-half years was second-in-command of his force of fifteen heavy bomber squadrons, during which period it reached its peak strength of over 24,000 personnel. Following a short period in command of this force, he rose to be Deputy Air Officer Commanding-in-Chief of the RCAF Overseas for the last few months of the European War, with the rank of Air Vice Marshal.

Air Marshal Slemon was then named to command the RCAF forces destined for the war in the Pacific, a position which dissolved when the Japanese surrendered.

After the war's end, he served as a member of the Air Council in Ottawa until 1949 when he became Air Officer Commanding of Training Command. In 1953 Air Marshal Slemon assumed the position of Chief of the Air Staff of the Royal Canadian Air Force, with headquarters in Ottawa. He relinquished this position August 31, 1957, to become Deputy Commander-in-Chief of the North American Air Defense Command (NORAD), the joint Canada-United States command with headquarters in Colorado Springs, Colorado, USA.

####

**Air Marshal C. Roy Slemon**  
**Royal Canadian Air Force**

**Deputy Commander-in-Chief**  
**North American Air Defense Command**



**NEWS RELEASE**  
**PLEASE NOTE DATE**

# NORAD

NORTH AMERICAN AIR DEFENSE

TEL ME 2-5511 EXT 2389

OFFICE OF INFORMATION SERVICES  
COLORADO SPRINGS, COLORADO

AIR VICE MARSHAL WILLIAM ROSS MACBRIEN, OBE, CD

COMMANDER RCAF AIR DEFENCE COMMAND

Air Vice-Marshal William R. MacBrien was born in Camberly, England, in August 1913. He moved with his family to Canada in 1920 and was educated at Ashbury College, Ottawa and the Royal Military College, Kingston, Ont.

He was appointed to a commission in the RCAF in June 1935 and after pilot training received his wings the following year and was appointed to No. 1 Fighter Squadron.

A/V/M MacBrien served as a flying instructor at RCAF Station Camp Borden and Trenton, Ont., from 1937 to 1939 when he was appointed Chief Flying Instructor at Camp Borden. He then served on flying staff duties at various flying training schools in Canada as they opened under the British Commonwealth Air Training Plan. In September 1941 he was named Chief Instructor and later Commanding Officer of the Wartime No. 2 Service Flying Training School at Uplands, Ont.

In October 1942, A/V/M MacBrien was posted overseas and assumed command of a Canadian fighter wing in the south of England. During and after the Normandy invasion he commanded the Canadian fighter sector. It was during this period that the Canadian fighter squadrons enjoyed their greatest successes.

In 1945, A/V/M MacBrien was appointed Director of Operational Requirements at Air Force Headquarters in Ottawa.

In 1946-47, he was chosen to attend the National War College in Washington, D. C., and the following year was chosen as the first RCAF member of the Directing Staff of the National Defence College in Kingston, Ontario.

In August 1948 he was chosen to head the planning staff charged with forming the Air Defence Group at Ottawa, and in October of the following year was named Group Commander when the Air Defence Group moved to its permanent headquarters at St. Hubert, P. Q. He held this position until August 1951 when the formation became Air Defence Command and he was selected as its first Chief Staff Officer.

(MORE)

A/V/M MacBrien was transferred overseas in April 1953 as Chief of Staff of the 4th Allied Tactical Air Force with headquarters in Trier, Germany, under which the RCAF's Air Division functions.

Upon his return to Canada in July 1956 he was named Chief of Operations, a position he held until promoted to the rank of Air Vice Marshal in August 1958 and appointed Air Officer Commanding, Air Defence Command.

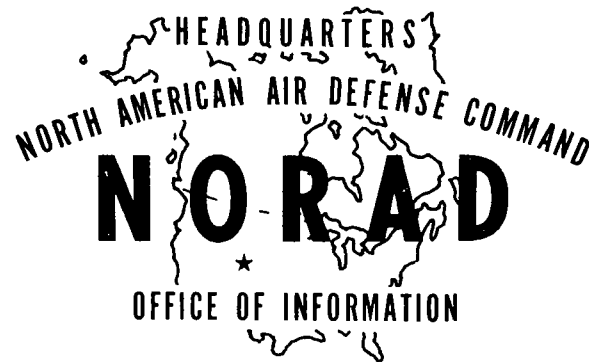
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**AIR VICE MARSHAL W. R. MACBRIEN, RCAF**

**COMMANDER**

**RCAF AIR DEFENCE COMMAND**





GENERAL LAURENCE S. KUTER, USAF

Laurence Sherman Kuter was born in Rockford, Illinois, on 28 May 1905 and was graduated from the United States Military Academy, West Point, New York, on 14 June 1927.

Second Lieutenant Kuter was first assigned to Battery D, 2nd Bn., 76th Field Artillery, Presidio of Monterey, California. He was formally assigned all battery officer duties except command. In May 1929, he was accepted for flying training, graduating from flying schools at Brooks Field and Kelly Field, Texas, as a bombardment pilot in June 1930.

He was then assigned as Operations Officer, 49th Bombardment Squadron, 2nd Bombardment Group, Langley Field, Virginia. One month later, Lieutenant Kuter was transferred to the Air Corps. In August 1933, Lieutenant Kuter moved up as Operations Officer, 2nd Bombardment Wing, and Assistant Base Operations Officer at Langley. During this period he flew alternate wing position with Capt. Clair L. Chennault's acrobatic group, "The Flying Trapeze." This was the first recognized aerial acrobatic team in the military service.

He was then given a leading role in the operational development of the B-9 Boeing twin-engine bomber which pioneered high altitude bombing techniques and tactics in the U. S. Air Force.

From February to June 1934, Lieutenant Kuter served as Operations Officer of the Eastern Zone Army Air Corps Mail Operations. At the conclusion of this assignment, he was selected for the Air Corps Tactical School, Maxwell Field, Alabama. He was graduated in the spring of 1935 and was retained at the school as instructor in bombardment aviation and in the employment of air power.

At this time the school was beginning to develop the role of strategic bombing in future warfare. The ideas born and developed at the school were to play an important part in his next assignment in the Operations and Training Division, War Department General Staff, Washington, D. C., where he was ordered to duty on 1 July 1939.

Early in 1941 he was a principal factor in several augmentations of the Air Corps and was one of the four principal authors of the basic plan for employment of air power in World War II.

In November 1941, Major Kuter was designated Assistant Secretary, War Department General Staff. While on that assignment he participated as one of a committee of three in the reorganization of the War Department. He was promoted to Lieutenant Colonel on 5 January and to Brigadier General on 2 February 1942, and transferred in March to Headquarters Army Air Forces as the Deputy Chief of Air Staff. His was the first "jump" promotion of an officer as young as 36 since William T. Sherman. The next youngest general or flag officer at that time was 46.

General Kuter was assigned overseas in October 1942 in command of the First Bombardment Wing (later First Bombardment Division), Eighth Air Force, Brampton Grange, England.

Then in January 1943, General Kuter was transferred to North Africa to command the Allied Tactical Air Forces. In February the Royal Air Force's Western Desert Air Force reached Tunisia and was merged with the Allied Support Command from North Africa. General Kuter became the American Deputy Commander in the newly consolidated Northwest African Tactical Air Force.

In May 1943, General Kuter returned to Headquarters Army Air Forces to become Assistant Chief of Air Staff for Plans and Combat Operations. During this period, plans for the overall air war offensive for the defeat of Japan reached the stage where it became practicable to organize the United States Army Strategic Air Force in the Pacific. This headquarters was set up in the Pentagon under General Henry H. Arnold's personal and direct command. General Kuter served as General Arnold's Chief of Staff and Deputy Chief of Staff, Plans. He additionally served with the 20th Air Force and when it moved into the Pacific Ocean area, he joined the 8th Air Force. These units later formed the U. S. Army Strategic Air Force, Pacific.

In February 1944, General Kuter was promoted to Major General. Prior to this, in August 1943, and extending through February 1945, he participated in the series of Combined Chief of Staff Conferences at Quebec, Cairo, and London. When General Arnold became suddenly and seriously ill, General Kuter was designated as his representative to attend the Yalta and Malta Conferences.

General Kuter went to the Mariana Islands in May 1945 to become Deputy Commander of the Army Air Forces, Pacific Ocean Area, and to help build and operate the United States Army Strategic Air Forces in the Pacific.

At the conclusion of the war in the Pacific, General Kuter was directed to return to Headquarters USAF through Europe. In Paris he was intercepted by an order redirecting him back through the Philippines, Guam, and Okinawa to assume

command of the air lift forces as General Arnold's and General H. L. George's personal representative in arranging the airlift of General MacArthur and Army Forces into Japan. He then returned to the States.

During the next year General Kuter consolidated three Air Transport Command divisions into the Atlantic Division, ATC, and served as its commander. While in this position, he represented the Air Force at the US-UK Bilateral Air Conference in Bermuda, and participated in negotiating an agreement with Portugal for USAF use of Lajes Air Field in the Azores.

In September 1946, by Presidential Order, the General was appointed U. S. representative to the Interim Council of the Provisional International Aviation Organization in Montreal, Canada. A year later he was reappointed by Presidential Order as the U. S. representative to the then permanent International Civil Aviation Organization. In his appointment he had the personal rank of minister. During this period of the birth of international agreements in aviation, General Kuter participated in major civil aviation conferences in London, Cairo, Lima, and Rio de Janeiro.

President Truman nominated General Kuter for the chairmanship of the Civil Aeronautics Board. At this time, however, the Senate Committee refused to confirm the nomination of a military man to such position.

Within a month he was named Commander Designate of the proposed Military Air Transport Service (MATS) in February 1948. This was the first integrated military service. He was primarily responsible for its charter and organization. When MATS was activated four months later, General Kuter became its first commander.

General Kuter was promoted to Lieutenant General in April 1951 and in October of that year was designated Deputy Chief of Staff for Personnel, Headquarters USAF. He held this position until April 1953 when he assumed command of the Air University, Maxwell Air Force Base, Alabama.

As Commander, Air University, General Kuter raised the status of the Air Command and Staff School to college level, the Squadron Officer's Course to school level, and brought the Air University closer to its original concept as a university with a university staff and faculty to handle all levels of professional military education in the U. S. Air Force. This concept has been adopted by the air forces of several foreign countries.

Lieutenant General Kuter was promoted to full general while in flight at 0001 on 29 May 1955, while enroute to Tokyo to assume command of the Far East Air Forces (FEAF).

In this new command, General Kuter found the mobility of air power impeded by the existence of two major commands in the Pacific. His air units were split

between the Far East Command with headquarters in Tokyo and the Pacific Command in Hawaii. Air units from one of these commands could not be moved to the other without permission of two theater commanders or the Joint Chiefs of Staff in Washington. General Kuter's long-term recommendations and objections to the divided command system were registered in a formal recommendation to the Chief of Staff, USAF. This study was then used as the USAF position before the Joint Chiefs of Staff and assisted in the consolidation of the two commands and the establishment of the present Pacific Command.

When Far East Air Forces was disestablished in this consolidation of command, General Kuter became Commander-in-Chief of the newly created Pacific Air Forces on 1 July 1957. Pacific Air Forces is the air arm of Pacific Command. Its headquarters is at Hickam Air Force Base, Hawaii.

He assumed the post of Commander-in-Chief, NORAD, on 1 August 1959, and is now serving in that position.

General Kuter is a rated command pilot, combat observer, technical observer, and aircraft observer. He has logged more than 8,000 hours of flying time, including 3,200 hours as a command pilot. He has flown around the world eight times visiting Air Force installations.

General Kuter is married to the former Ethel Lyddon of Rockford, Illinois, and has one daughter, Roxanne, whose husband is Robert B. Williamson (Ph.D), economist with the Federal Reserve Bank of Dallas, Texas. He has three grandchildren: Laurence Kuter Williamson, Robin Beth, and Donald.

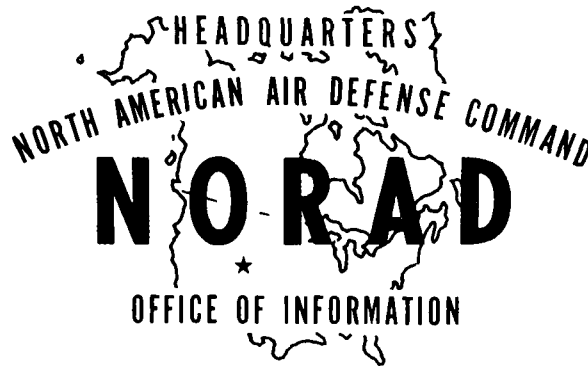
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**General Laurence S. Kuter  
United States Air Force**

**Commander-in-Chief  
North American Air Defense Command**





LT GENERAL ROBERT J. WOOD

CG, UNITED STATES ARMY AIR DEFENSE COMMAND

Robert Jefferson Wood was born June 9, 1905, in Petersburg, Virginia, and was graduated from high school there. He attended Randolph-Macon College at Ashland, Virginia, 1925-26, and entered the U.S. Military Academy at West Point in 1926, graduating June 12, 1930. He was commissioned a second lieutenant in the Coast Artillery Corps and assigned to the 69th Coast Artillery Regiment (AA), then at Aberdeen Proving Ground, Maryland, but subsequently at Fort McClellan, Alabama.

In March, 1932, he arrived in the Philippine Islands and served on Corregidor with the 59th, 92d and 60th Coast Artillery Regiments until January, 1935, when he returned to the States, being assigned to the 51st Coast Artillery Regiment at Fort Monroe, Virginia. In June, 1935, he was ordered to duty at West Point as an instructor in the Department of Social Sciences, where he served four years. In September, 1939, he entered the Coast Artillery School at Fort Monroe, Virginia. In February, 1940, he was assigned to the 61st Coast Artillery Regiment at Fort Sheridan, Illinois, but returned to Fort Monroe for duty as Adjutant of the Harbor Defenses in the summer of that same year. In April, 1941, he attended the Command and General Staff School at Fort Leavenworth.

On Pearl Harbor Day, he was on duty with the Newfoundland Base Command in St. Johns, Newfoundland. In December, 1942, he was ordered to London for duty with Allied Forces Headquarters and subsequently took part in the invasion of North Africa. When the Fifth U.S. Army was activated in French Morocco in January, 1943, he became a member of the G-3 Section and served in that capacity during the training of the Army in North Africa, the Salerno operation, and the Italian campaign.

He returned to the States in December, 1944, for duty in the Operations Division of the War Department General Staff, serving as Deputy Chief of the Strategy and Policy Group of that division. He attended the National War College, 1947-48, became Military Aide to the Secretary of Defense in June, 1948, and served as an instructor at the National War College from May, 1949, until December, 1950.

In January, 1951, he was assigned as a member of the initial group which planned the activation of Supreme Headquarters Allied Powers Europe, and subsequently served as Secretary of the Staff at SHAPE until May, 1952, at which time he assumed command of the 53d Antiaircraft Artillery Brigade, then engaged in the air defenses of Pittsburgh and Philadelphia, Pennsylvania.

He returned to Paris in July, 1953, as Deputy Defense Advisor to the U.S. Ambassador to the North Atlantic Treaty Organization.

In January, 1956, he was assigned as Deputy Commanding General of the Antiaircraft Artillery and Guided Missile Center, now the Army Air Defense Center, at Fort Bliss, Texas, and on May 1, 1956, became Commanding General of the Center and Commandant of the Antiaircraft Artillery and Guided Missile School, now known as the Army Air Defense School.

On July 1, 1957, he was assigned to the Office, Chief of Research and Development, and on July 15, 1957 became Deputy Chief of that office. General Wood assumed command of the United States Army Air Defense Command, with headquarters at Colorado Springs, Colorado, on August 1, 1960.

His decorations include the Legion of Merit with Oak Leaf Cluster and the Purple Heart.

He was promoted to first lieutenant August 1, 1935; to Captain June 12, 1940; to Major February 1, 1942; to Lieutenant Colonel October 23, 1942; to Colonel April 1, 1944; to Brigadier General July 5, 1952; to Major General March 16, 1956; and to Lieutenant General August 1, 1960.



Lt Gen Robert J Wood, USA, 018064  
Commanding General, USAFADCOM  
Ent AFB, Colorado Springs, Colo

Photo by Spaulding Studio

24 Apr 61





# NORAD FACT SHEET

COMMAND

PUBLIC AFFAIRS OFFICE

## AIR MARSHAL C. R. DUNLAP, RCAF DEPUTY COMMANDER IN CHIEF, NORAD

Air Marshal C. R. (Larry) Dunlap has seen continuous service in the RCAF since joining in 1928. His entry into the air force followed immediately upon graduation from the Nova Scotia Technical College and Acadia University with a Bachelor of Science Degree in Engineering.

His early service included many years of flying in some of the remote areas in Canada on aerial photography and mapping operations. Later he specialized in air armament and ballistics in the course of which he spent several years in Britain undergoing specialist training. When World War II broke out in 1939 he was appointed Director of Armament at Air Force Headquarters, Ottawa.

In 1942 he was given an overseas assignment as Commanding Officer of an RCAF bomber base at Leeming, Yorkshire--one of several such bases in the famed all-Canadian No. 6 Bomber Group.

Prior to the commencement of the Sicilian campaign he was named to command a bomber wing of three Wellington Squadrons in North Africa--the base of operations being located in Tunisia. For notable successes of his wing in carrying out strategic and tactical bomber missions in Sicily, Italy and Sardinia, he received special commendation from Air Chief Marshal Tedder of the Royal Air Force and General Jimmy Doolittle.

He returned to Britain to command a day bomber wing within the newly-formed 2nd Tactical Air Force. The Air Marshal flew 35 missions on B-25s while commanding the wing. This wing achieved outstanding successes in support of Allied ground forces and against German V-1 and V-2 missile sites.

He was awarded the U.S. Silver Star and French Croix de Guerre for actions in support of American and French forces in Normandy and other parts of Europe.

In January 1945 he was promoted to the rank of air commodore and reassigned to No. 6 Bomber Group, Yorkshire, this time to command what was known as a clutch of bomber bases.

As the war in Europe drew to a conclusion he returned to Canada to become Deputy Air Member for Air Staff at Air Force Headquarters, a position which he held until his departure to attend the U.S. National War College some two years later.

Returning to Canada in 1948 he occupied successively the following appointments: Air Member for Air Plans at Air Force Headquarters; Air Officer Commanding Northwest Air Command at Edmonton, Alberta; Air Officer Commanding Air Defence Command, St. Hubert, Quebec; and Commandant of the National Defence College at Kingston, Ontario, a position which he held until August 1954 when he became Vice Chief of the Air Staff at Air Force Headquarters.

In June 1958 he was assigned to Supreme Headquarters Allied Powers Europe (SHAPE) as Deputy Chief of Staff for Operations with simultaneous promotion to Air Marshal.

Upon returning to Canada in 1962 Air Marshal Dunlap was appointed Chief of Staff of the RCAF, a position which he held until his arrival in Colorado Springs in August 1964 to take up his appointment as Deputy Commander in Chief, North American Air Defense Command (NORAD).

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# NORAD FACT SHEET

COMMANDER PUBLIC AFFAIRS OFFICE

## AIR VICE-MARSHAL MICHAEL E. POLLARD, RCAF COMMANDER, CANADIAN FORCES AIR DEFENCE COMMAND

Air Vice-Marshal Michael E. Pollard was born in Croydon, England, in April 1920, received his early education in Montreal, and returned to England in 1938 to join the Royal Air Force.

During the Second World War he served as a medium bomber pilot, winning the Distinguished Service Order and the Distinguished Flying Cross. In addition, he was awarded the Air Force Cross in 1944.

In November 1944 he transferred to the Royal Canadian Air Force and was repatriated to Canada in July 1945, following which he left the service. He re-enlisted in February 1946 and was assigned to Air Force headquarters, Ottawa, for duties in the Directorate of Postings and Careers until July 1950 when he was appointed commanding officer of the 435 (Transport) Squadron at Edmonton, Alta.

In 1952 he was posted overseas to command the RCAF's 2 Fighter Wing, Grostenquin, France, and the following year assumed the duties of senior air staff officer at 1 Air Division headquarters, Metz, France.

In June 1955 Air Vice-Marshal Pollard was appointed commanding officer of RCAF Station Chatham, N.B., and remained in that post until August 1957, when he was transferred to Lac St. Denis, Que., as sector commander. In 1960 he was appointed deputy chief of staff for Operations at Northern North American Air Defense Command Region, St. Hubert, Que.

In September 1962 he was transferred to the post of commander, Ottawa NORAD Sector at North Bay, Ontario, where he remained until becoming director general air forces at Canadian Forces headquarters in the fall of 1965.

In the summer of 1966 the headquarters of Canadian Forces Air Defence Command was moved to North Bay to be colocated with the headquarters of the Northern NORAD Region. At that time Air Vice-Marshal Pollard was promoted to his present rank and appointed commander of both Air Defence Command and Northern NORAD Region.

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# NORAD FACT SHEET

GENERAL RAYMOND J. REEVES, USAF  
COMMANDER IN CHIEF  
NORTH AMERICAN AIR DEFENSE COMMAND

General Raymond J. Reeves is commander in chief, North American Air Defense Command (NORAD), an international command consisting of United States and Canadian air defense forces. It has the aerospace defense responsibility for the entire North American continent. The general also serves as commander in chief of the Continental Air Defense Command (CONAD), the American portion of NORAD.

General Reeves was born in Tennessee and moved to Washington, D.C., at an early age where he attended grammar and high school. After two years at the University of Maryland he entered the U.S. Military Academy at West Point. He was graduated and commissioned a second lieutenant in June 1934.

He entered flying training the same year and received his wings in October 1935 at Kelly Field, Tex. In February 1936 he was assigned to the 3rd Pursuit Squadron at Clark Field, Philippine Islands. Two and a half years later he returned to the States and was assigned to the Air Corps Technical School at Lowry Field, Denver, Colo.

At the outset of World War II, he was assigned as director of training, Army Air Forces Technical School, Gulfport Field, Miss. Later, General Reeves served as director of training, then commanding officer of the Army Air Forces Technical School at Yale University. Under his command, the school graduated more than 14,000 officers specially trained in aircraft maintenance, engineering, air and ground communications, aircraft armament, and aerial intelligence photography.

(MORE)

Later in the war, he was assigned to the Far East Command (FEAF) as chief of the Redeployment Section, later becoming assistant chief of Air Staff for Supply. During his FEAF tour the general also served as deputy commanding officer, 13th Fighter Command; chief of staff, 85th Fighter Wing; and as commander, Ft. William McKinley.

Following duty assignments at Air Force Headquarters in Washington, General Reeves was assigned to Headquarters United States Air Forces in Europe (USAFE), Wiesbaden, Germany, as assistant chief of staff for Personnel, and was promoted to brigadier general in 1952. During this time USAFE was helping to reinforce the North Atlantic Treaty Organization (NATO) through a buildup of U.S. Air Force units in Europe. General Reeves was responsible for manning combat and support units, as well as for personnel policies for a command of over 100,000 persons in more than 15 countries of Europe, North Africa and the Middle East.

Returning to Air Force Headquarters in 1954, he was assigned as director of Military Personnel in the Office of the Deputy Chief of Staff, Personnel, and was promoted to the rank of major general in 1955. In July 1959, the general became vice commander of the Military Air Transport Service with headquarters at Scott Air Force Base, Ill., and in August 1963, he was promoted to the rank of lieutenant general and assigned as the commander in chief, Alaskan Command, with additional duty as commander, Alaskan NORAD Region. General Reeves received his fourth star upon being appointed commander in chief, NORAD/CONAD, on Aug. 1, 1966.

He and his wife, the former Willie Mae Simpson of Little Rock, Ark., have two sons, Raymond J. Reeves, Jr., and William Samuel Reeves, both of whom are officers in the United States Air Force.

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# ARAD FACT SHEET

COMMAND

OFFICE

## LIEUTENANT GENERAL ROBERT HACKETT, USA COMMANDING GENERAL, U.S. ARMY AIR DEFENSE COMMAND

Lt. Gen. Robert Hackett is commanding general of the U.S. Army Air Defense Command, which mans the inner ring of North American Air Defense Command defenses. He took over this assignment in August 1966.

ARADCOM provides combat-ready Army forces for air defense of specified critical locations. The command's surface-to-air missile batteries shield more than 100 cities, including many of the nation's heaviest concentrations of population and industry.

Robert Hackett was born in Philadelphia, Pa., Dec. 19, 1909. After attending Frankford High School in Philadelphia, he entered the United States Military Academy at West Point. He graduated in 1931 and was commissioned a second lieutenant of Field Artillery.

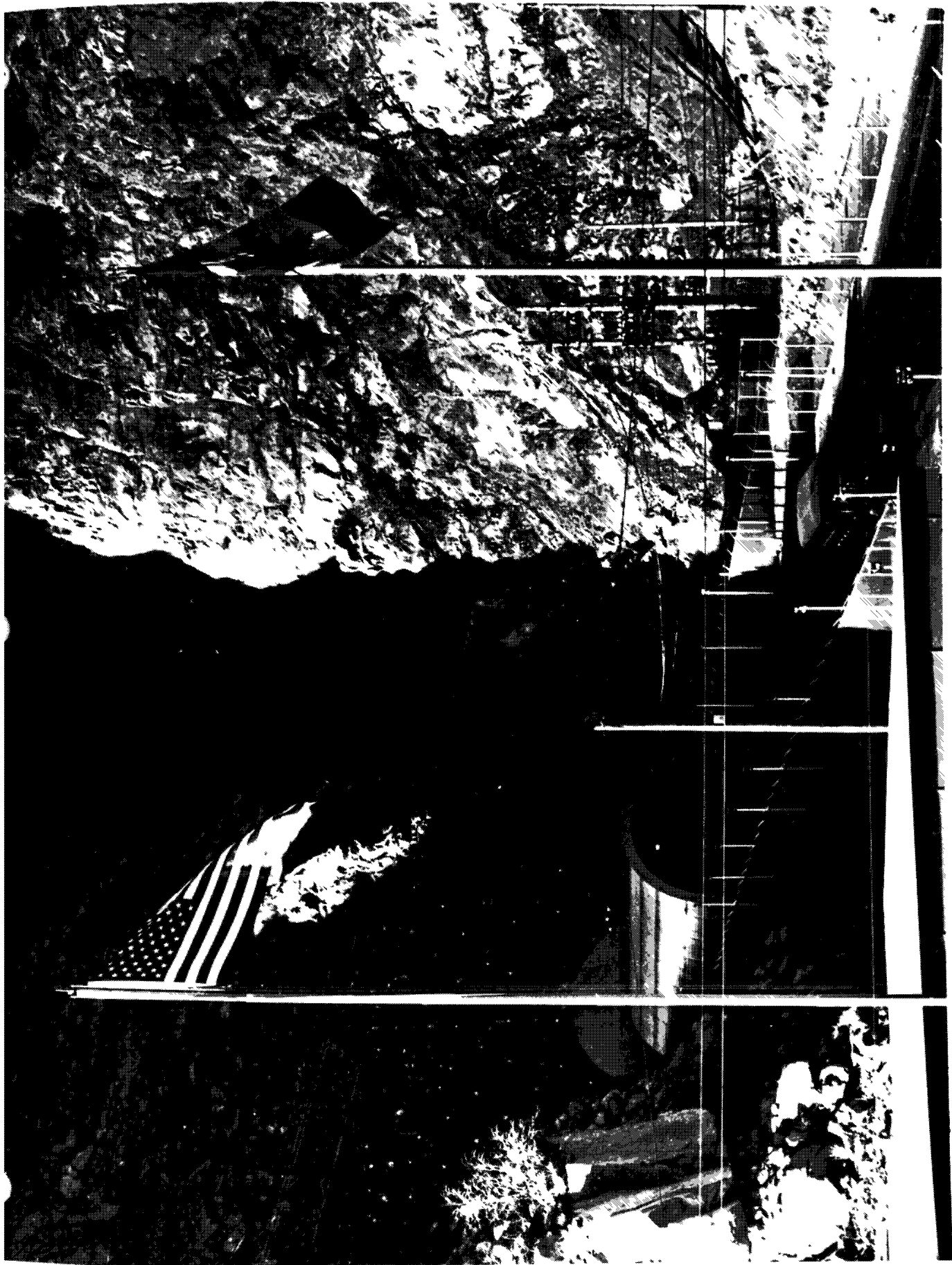
During the first nine years of his military career, General Hackett served in varying capacities, including that of battery commander in artillery units in the United States and in the Philippine Islands.

From 1940 until 1944, he was assigned to the Department of Physics, United States Military Academy, first as an instructor and later as assistant professor. In early 1944, General Hackett was assigned to the Office of the Assistant Chief of Staff, G-1, U.S. Armed Forces in the Far East, with successive stations in Australia, New Guinea, and the Southern Philippines. He remained with that headquarters in its new role as General Headquarters U.S. Armed Forces Pacific, with successive headquarters in Manila, Philippine Islands, and Tokyo, Japan. During the foregoing period, General Hackett received credit for the New Guinea, Southern Philippines, and Luzon campaigns and was connected with the organization responsible for the recovery of our prisoners of war from the Japanese prison camps. Later he was responsible for the general supervision of the readjustment program which returned our troops from the Asiatic theaters of war to the United States.

(MORE)







**INTERNATIONAL MOUNTAIN -- This granite outcropping, a part of the Colorado Rockies, is a mountain with international import. Flags of Canada and the United States, the two partner nations in the North American Air Defense Command, fly in front of the rugged face of Cheyenne Mountain; and on the inside, Canadians and Americans work at the job of defending both countries against aerospace attack. In one of the 11 steel buildings of the underground complex near Colorado Springs is the NORAD Combat Operations Center, the command post for continental aerospace defense. More than 900 people spend an eight-hour shift every day inside the mountain where daylight is a third of a mile down the tunnel or 1,400 feet straight up.**

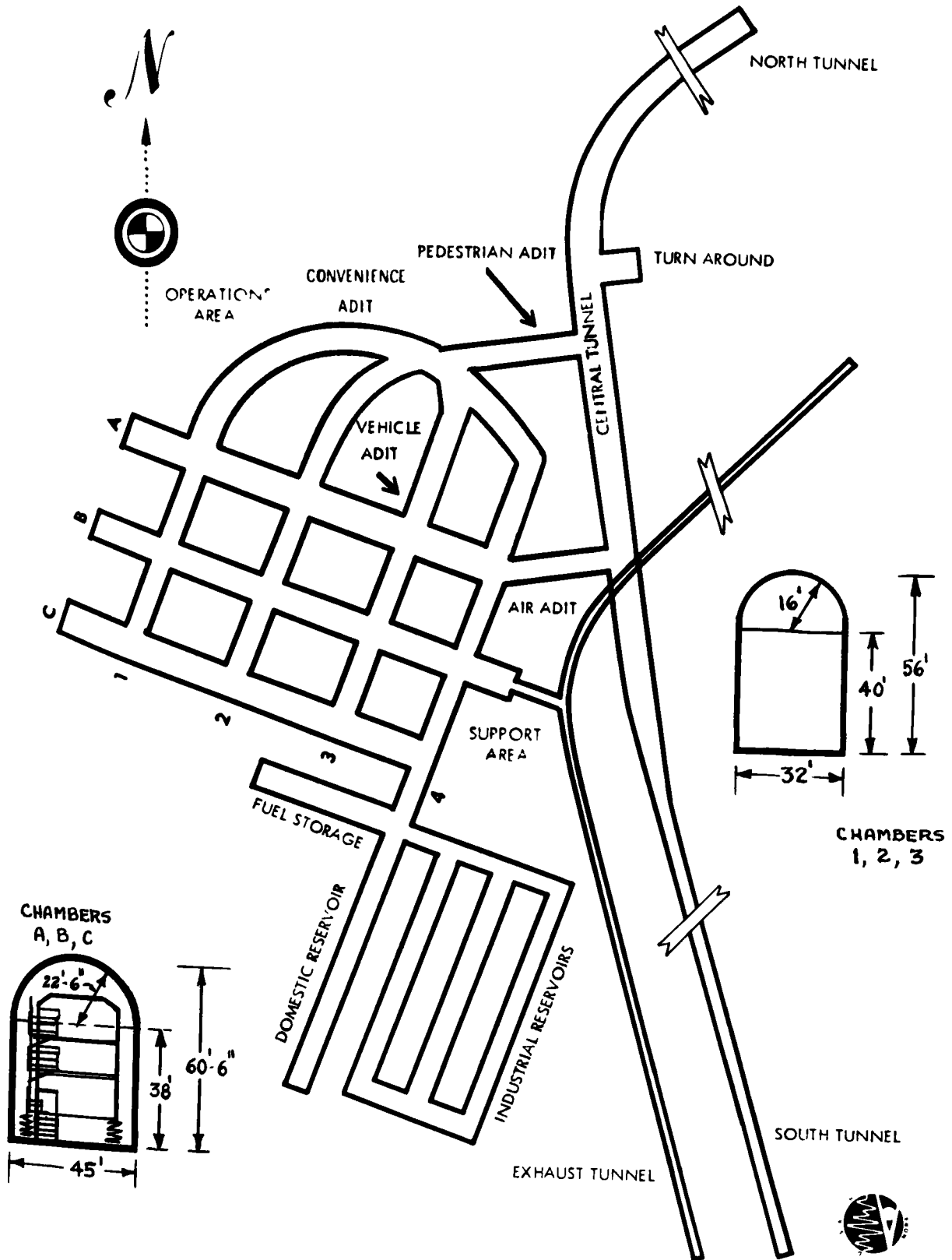
**(NORAD PHOTO)**

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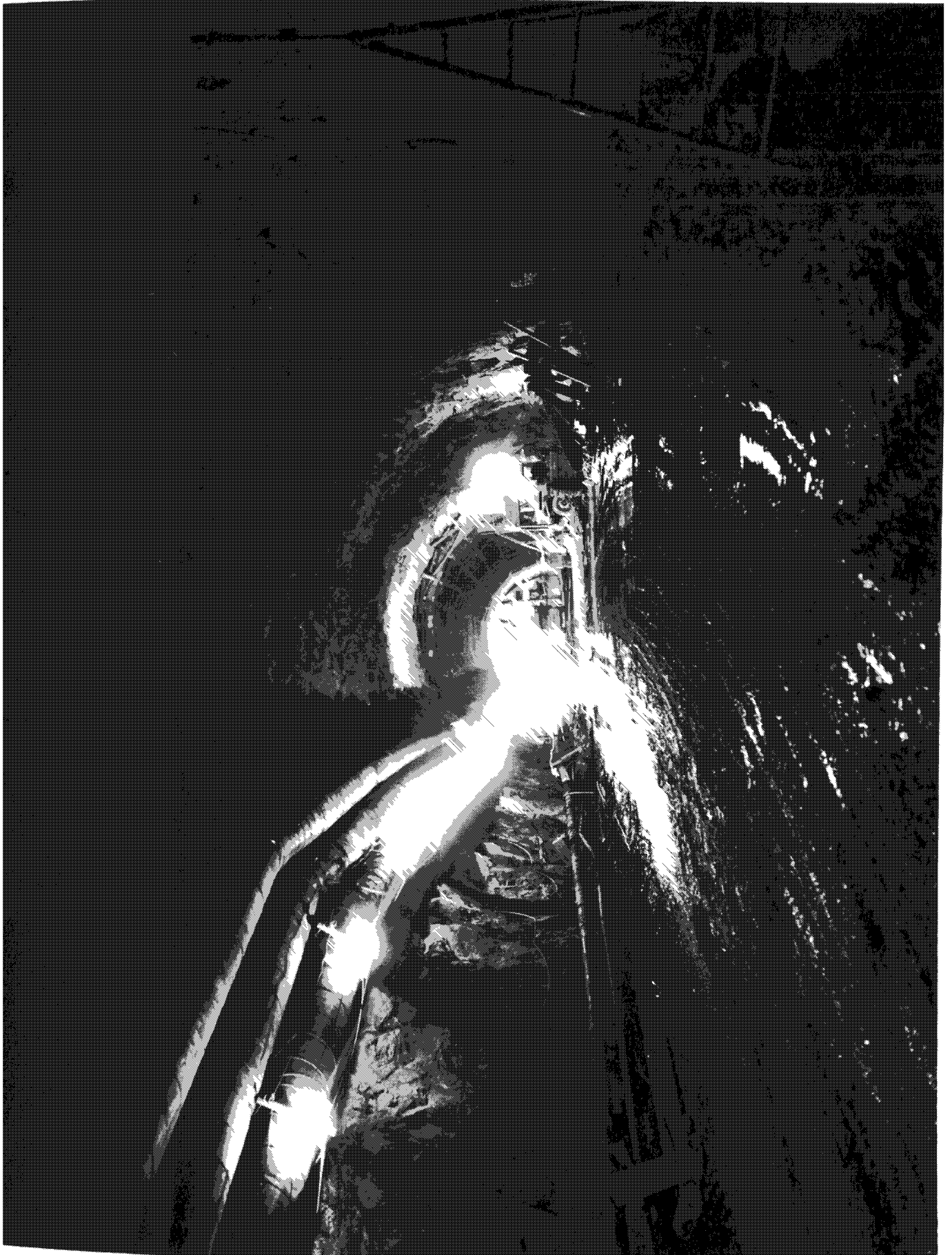
20067



# NORAD COC EXCAVATION







**In mid-October 1961, after less than four months of tunneling through more than 4000 feet of granite, hard rock miners broke through the final wall to face one another in the heart of Cheyenne Mountain near Colorado Springs, Colorado. This view of the excavation shows the central access tunnel from which branches a series of chambers designed to house a three story building. The building will house the electronic-communications systems that will provide the data NORAD's commander-in-chief will use to conduct the aerospace defense of North America.**

**(OFFICIAL NORAD PHOTO)**





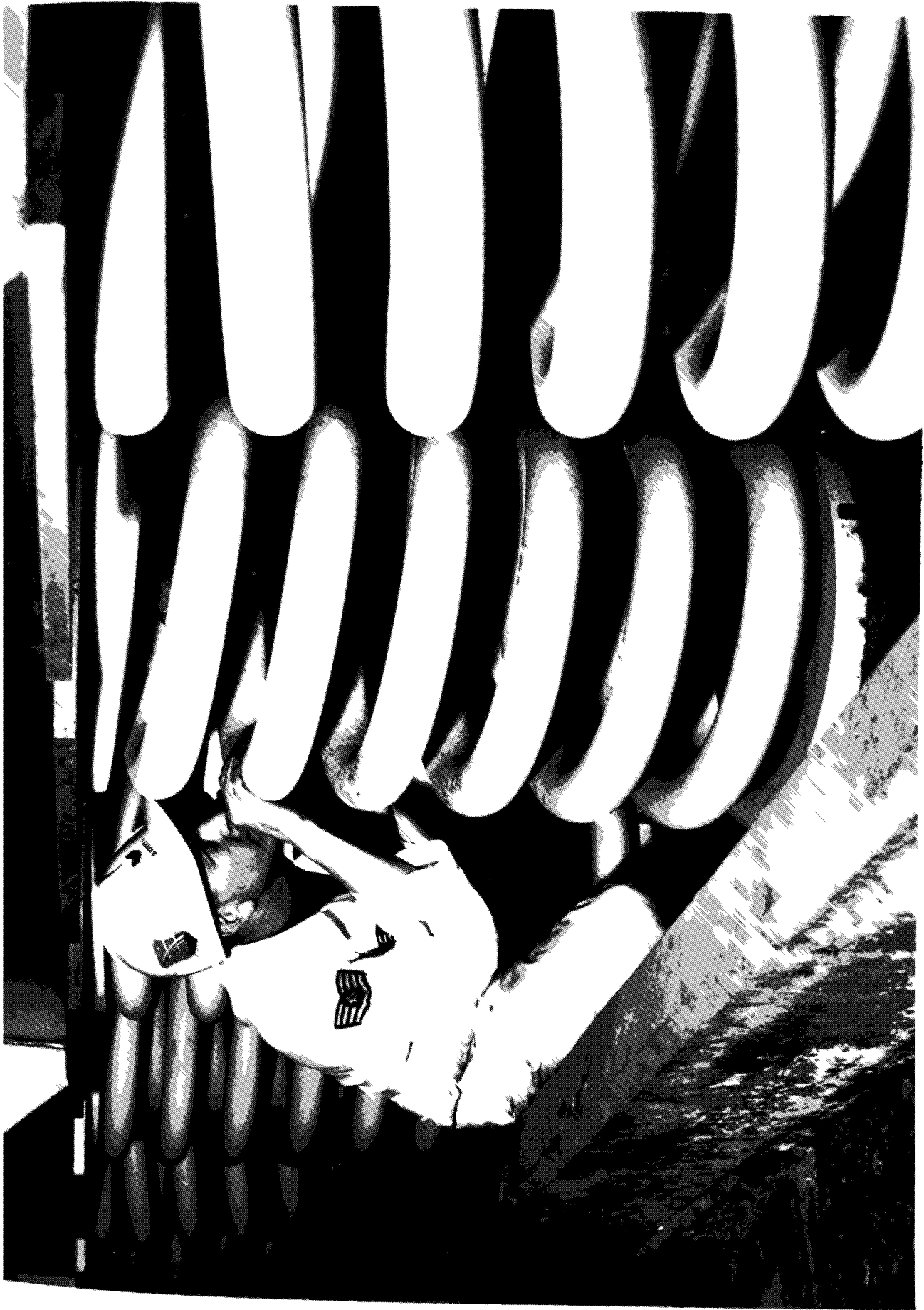
**THIRTY-TON SWINGERS--Gigantic blast doors swing open to let the underground people from the North American Air Defense Command's Combat Operations Center, deep inside Cheyenne Mountain near Colorado Springs, head for home. The finely balanced 30-ton steel doors are operated electronically and can be closed in 30 seconds. Located 50 feet apart and encased in 17-foot-thick concrete collars, they are another survival precaution employed in the mountain complex to guard the people who would direct aerospace defense of North America in event of an enemy attack.**

**(NORAD PHOTO)**

**Neg #553-66**

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**COILED FOR DEFENSE--Rows of mammoth springs, coiled from three-inch diameter steel, support the 11 buildings of the inside-a-mountain complex housing the North American Air Defense Command's Combat Operations Center. More than 900 of the springs, weighing a ton each, cushion the buildings, people and the delicate electronic gear they operate against jarring nuclear blasts or earthquakes**

**(NORAD PHOTO)**

**Neg #32-66-3**

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**SPACE WATCH -- They work in an underground stronghold, but these men are concerned with what's going on in space. This is the North American Air Defense Command's Space Defense Center inside Cheyenne Mountain near Colorado Springs, Colo. Receiving data from a network of space-watching devices, the center has the task of cataloging man-made objects circling the earth, determining their orbits and calculating future positions. Information assembled here on orbiting satellites can be piped into the main display area in the NORAD Combat Operations Center, housed in the same underground complex.**

**(NORAD PHOTO)**

**Neg #709-66**

**80067**





**COMMUNICATIONS LINK -- Called the Automatic Digital Relay, this is the main communications point for the North American Air Defense Command's Combat Operations Center. Operational teletype communications going into or out of the command post inside a Colorado mountain flow through the machines making up this computer facility. The computers automatically switch the transmissions to their proper destinations.**

**(NORAD PHOTO)**

**Neg #701-65-7**

**70067**





**AEROSPACE DEFENSE SHOWCASE -- Showcase for signs of aerospace attack against Canada and the United States is this display screen deep underground in the North American Air Defense Command's Combat Operations Center. By pushing buttons, battle staff members can take an electronic look at the sky and space approaches to North America or call up computer-stored information such as the status of defensive weapons. Built more than 1,400 feet below the granite top of Colorado's Cheyenne Mountain, this is the nerve center which would give the first warning of attack and the command post from which the defensive air battle would be directed.**

**《NORAD PHOTO》**

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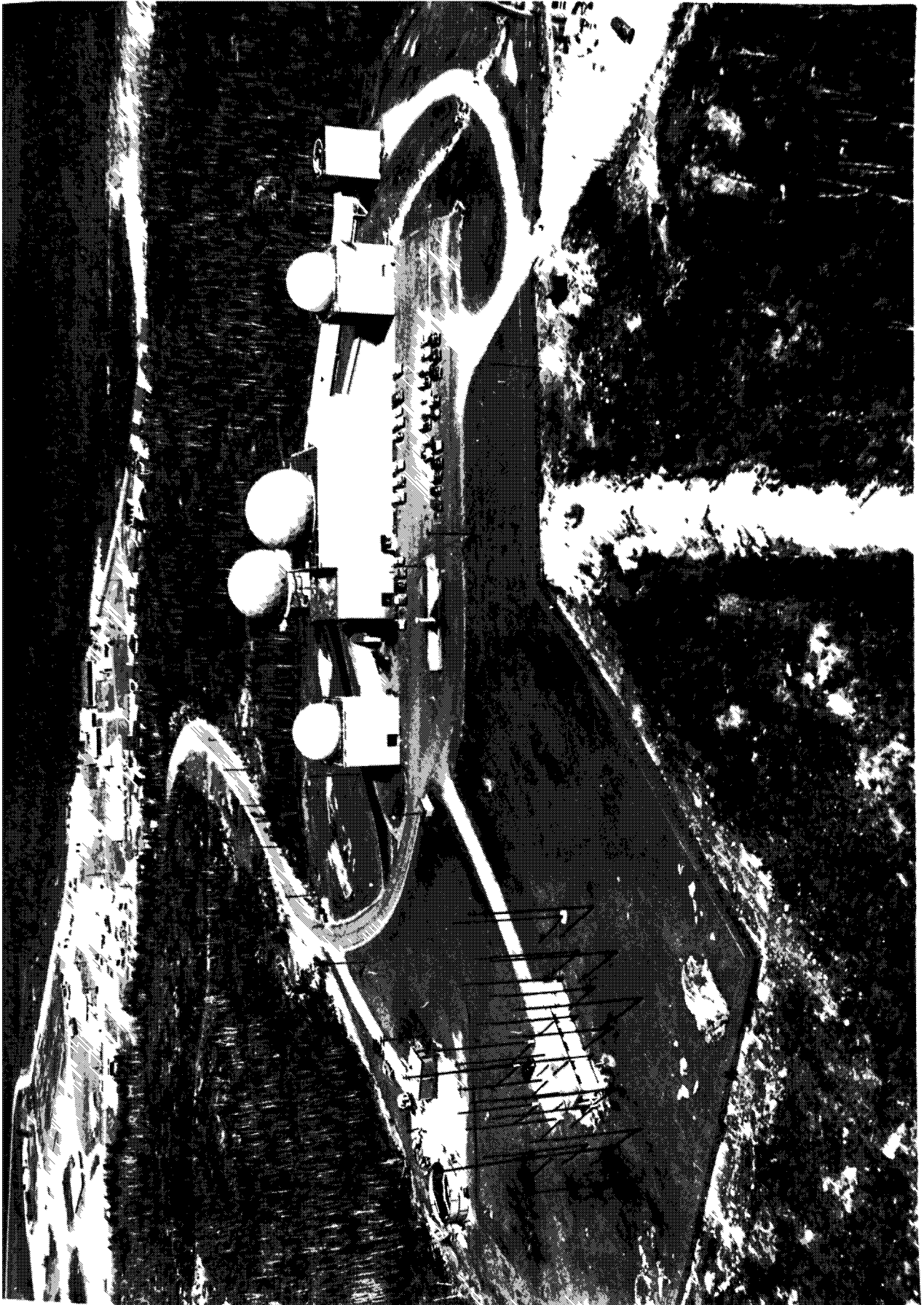
**NORAD LOOKOUT -- This single-eyed structure, high on the steep slopes of Cheyenne Mountain near Colorado Springs, looks out over the eastern Colorado plains. It is a blast resistant radio antenna and the messages it picks up are channeled to the North American Air Defense Command's Combat Operations Center several hundred feet below and inside the mountain. There are two of the microwave antennas and they are part of the center's communications link with the outside world. The building of the two structures used 12,000 hundred-pound bags of concrete and 60 tons of reinforced steel to meet the hardness specification.**

**(NORAD PHOTO)**

**Neg #6-65**

**70067**





**AIR LANES INVESTIGATOR -- Tracks of unidentified aircraft flashed on the plotting board in North American Air Defense Command's Combat Operations Center originate as blips on radar scopes under the domes of installations such as this one in Canada. This investigator of the air lanes not only detects and tracks aircraft but would guide fighters to their targets should an air attack be launched against North America.**

**(NORAD PHOTO)**

**Neg #22-66**

**80067**





**SILENT SENTRIES IN THE MISSILE AGE -- Massive steel ~~structures~~ ~~are~~ ~~from~~  
the tundra at Thule, Greenland as a part of the nation's first ~~BMEWS~~ ~~missile~~  
Early Warning System first station. Three stations will be ~~built~~. A second  
at Clear, Alaska is well underway. A third has been announced ~~for construction~~  
at Fylingdales Moor, in England. When completed the BMEWS ~~will provide the~~  
North American Air Defense Command with about 15 minutes ~~warning of a missile~~  
~~attack~~. The screens shown are about four hundred feet long and ~~115~~ ~~feet~~ ~~high~~.  
Effective range of the BMEWS radars is better than 3,000 ~~miles~~. ~~Data from the~~  
system is fed back to the NORAD Combat Operations ~~Center at Colorado Springs~~.**

**(OFFICIAL NORAD PHOTO)**





**OUTPOST ON ALERT -- Radar [REDACTED] the outposts in the North American Air Defense Command's Ballistic Missile Early Warning System cast long shadows across an Alaskan landscape. The same devices throw long radar beams 3,000 miles or more out over the top of the world to spot an intercontinental ballistic missile strike against North America and pass the alert to NORAD's Combat Operations Center. This BMEWS station, at Clear, Alaska, uses a combination of one scanner/tracker radar, under the 140-foot-in-diameter dome at left, plus the three steel-webbed detection radars which stand 400 feet long and 165 feet high. The system, which has other radar sites at Thule, Greenland, and Fylingdales Moor, in northern England, also supplies data on orbiting satellites to NORAD's Space Defense Center.**

**Neg #741-66**

**70067**

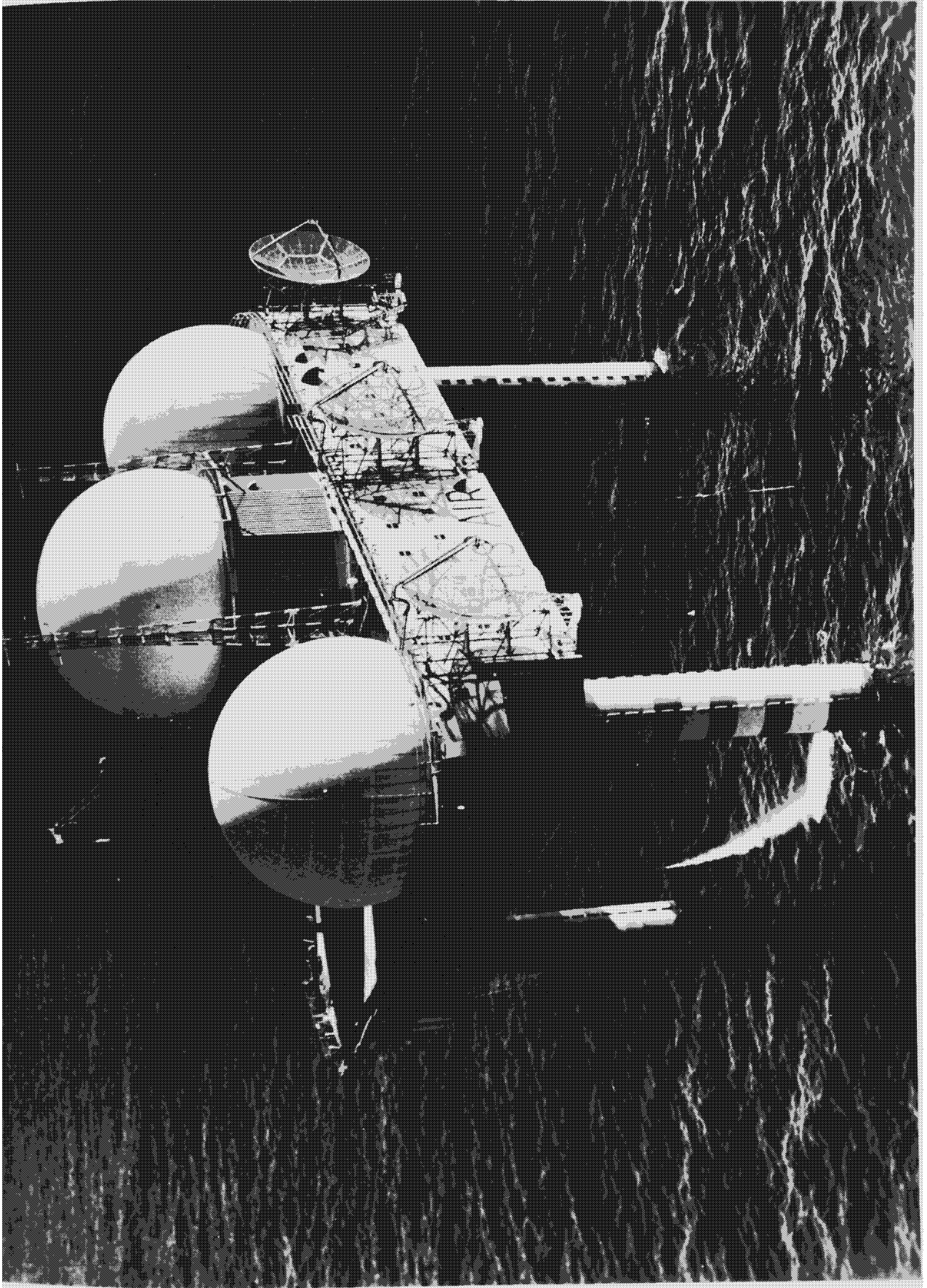




FIRST WARNING of a manned bomber attack against the North American continent might well be flashed from this Distant Early Warning (DEW) Line outpost in the far north. DEW Line radar stations, such as this, located along the 70th parallel, scan the Arctic area ready to flash instant warning of hostile aircraft to Hq North American Air Defense Command in Colorado Springs, Colorado. The DEW Line is integrated within the total defense system of the North American continent through interconnection with the Mid-Canada and Pine Tree lines, coastal radar stations, patrol planes, and radar picket ships.

(OFFICIAL NORAD PHOTO)

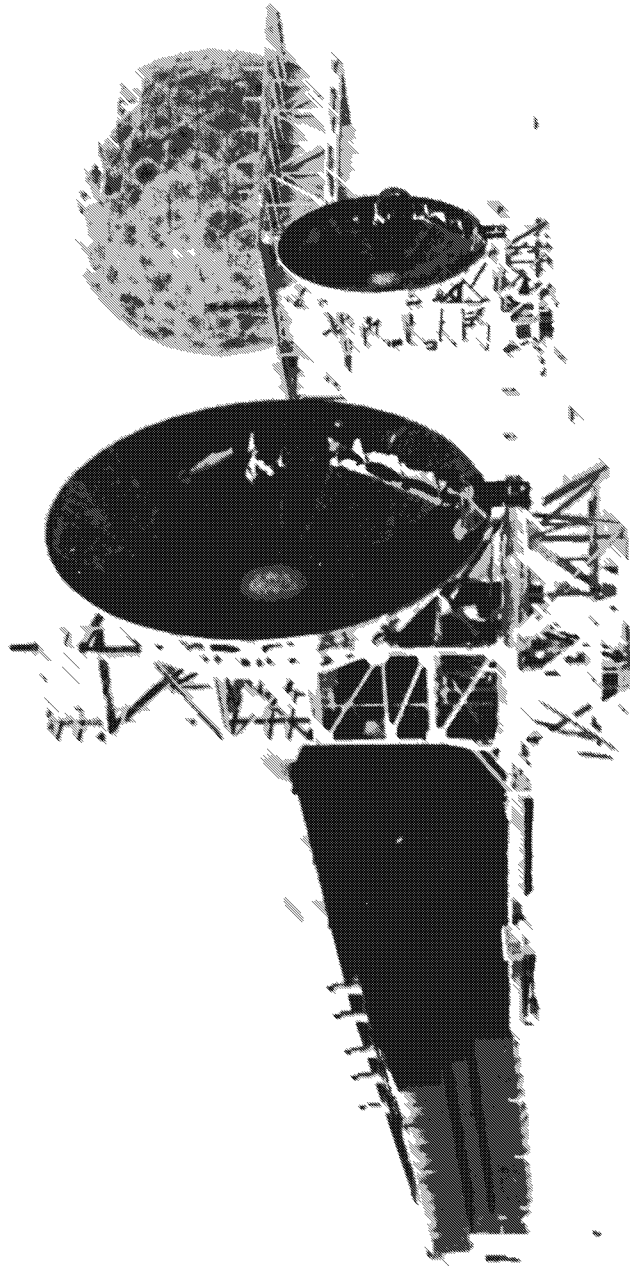




**A LONG WAY FROM TEXAS -- SITTING like rubber balls on a three legged milk stool, the radars of a Texas Tower stand guard as part of the North American Air Defense Command's early warning network. Named for its Texas oil drilling cousins, it is designed to provide early warning of unknown or enemy aircraft approaching the eastern coast of the United States. Three of these Towers are located about 100 miles outward from the Atlantic Coast. Operated by the USAF, they stand guard against the possibility of a sneak attack on the North American Continent.**

**(OFFICIAL NORAD PHOTO)**





**ARCTIC SENTINEL -- This is one of the links in the 5,000-mile chain of Distant Early Warning Line radar stations stretched across the top of the continent near the Arctic Circle from the Aleutian Islands to the east coast of Greenland. Conceived in the early 1950s, the main DEW Line was completed in 1957. Mission of the radar net is to spot enemy manned bombers attempting raids on North America over polar approaches and warn the North American Air Defense Command. The stations are operated by civilian technicians with U.S. Air Force and Canadian Armed Forces people on hand to evaluate radar findings.**

**(NORAD PHOTO)**

**Neg #447-65**

**80067**





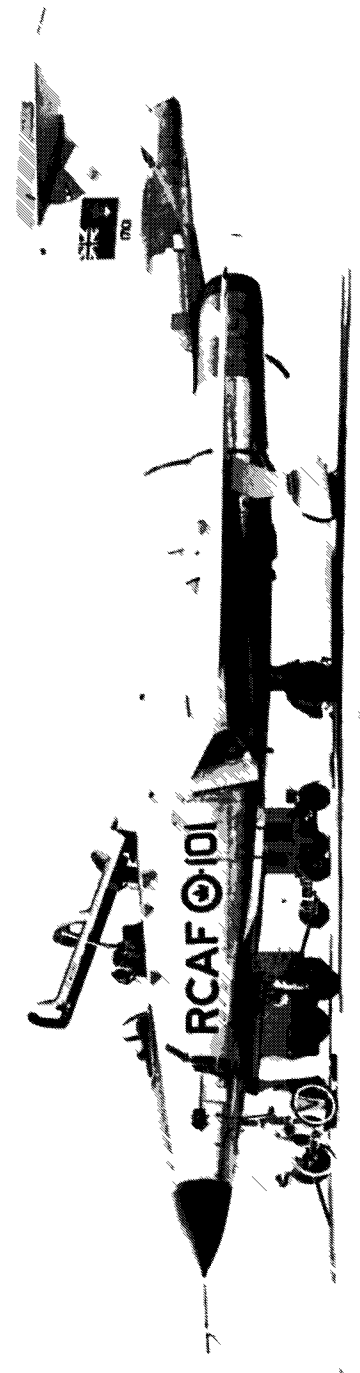
TURKEY TRACKER -- Scattered around the globe, locations such as Diyarbakir, Turkey; Kickapoo Lake, Tex.; Pretoria, South Africa; Shemya, Alaska; and Oslo, Norway, all have something in common. They are some of the sites of the machinery feeding information on man's activity in space into the North American Air Defense Command's Space Defense Center at Colorado Springs, Colo. This one is the U.S. Air Force-operated tracking radar, part of a detection/tracking combination at Diyarbakir. A network of U.S. Air Force, U.S. Navy, and Canadian Armed Forces and civilian scientific sensors gives NORAD daily reports on man-made objects in space. Thus, the U.S.-Canadian aerospace defense agency knows when new satellites have been put up.

(NORAD PHOTO)

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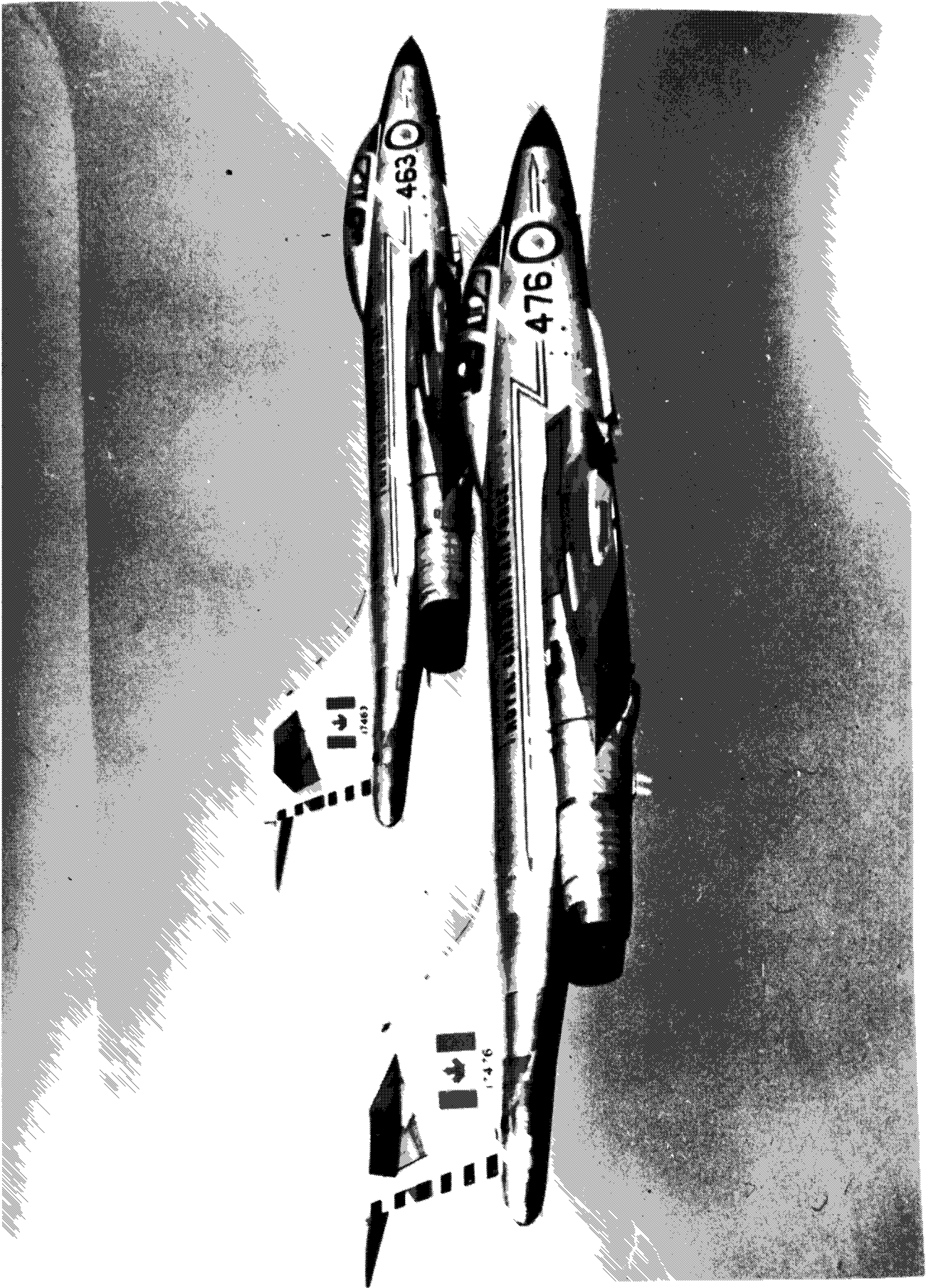


**Now entering service with North American Air Defense Command's Canadian component is the McDonnell CF-101B Voodoo. A proven front-line fighter-interceptor, the Voodoo joins the Royal Canadian Air Force's Air Defence Command to replace the obsolescent CF-100 Canuck being phased out of service. The conversion is scheduled for completion in 1962. With the ability to range far out from possible target areas at twice the speed of sound, the double-crewed jet will provide added punch to NORAD's northern defense capability. The Voodoo will carry non-nuclear Falcon missiles. Should an attack come, it could well be that RCAF Voodoos would be the first North American forces to face the enemy.**

Nov 61

(OFFICIAL NORAD PHOTO)





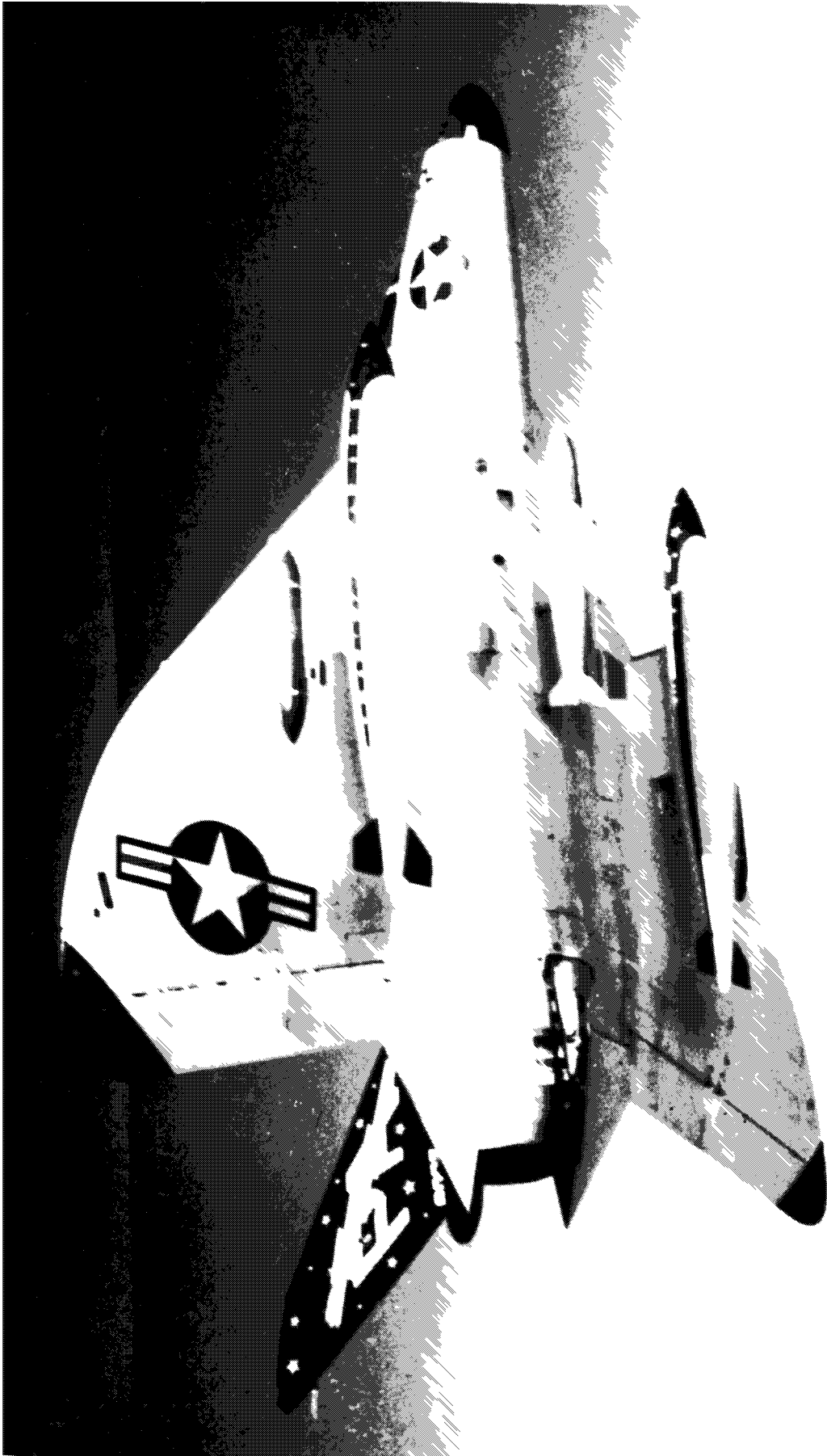
**CANADIAN INTERCEPTOR--The 1,200-miles-an-hour CF-101B Voodoo is the fighter-interceptor used by the Canadian Armed Forces Air Defence Command, Canadian component of the North American Air Defense Command, in contributing to the defense of North America. Capable of carrying Falcon air-to-air missiles and Genie nuclear air-to-air rockets, its long-range capability and supersonic speed enable it to engage an enemy many miles from target area. The Voodoo carries a two-man crew consisting of a pilot and radar intercept officer.**

**(NORAD PHOTO)**

**Neg #506-65**

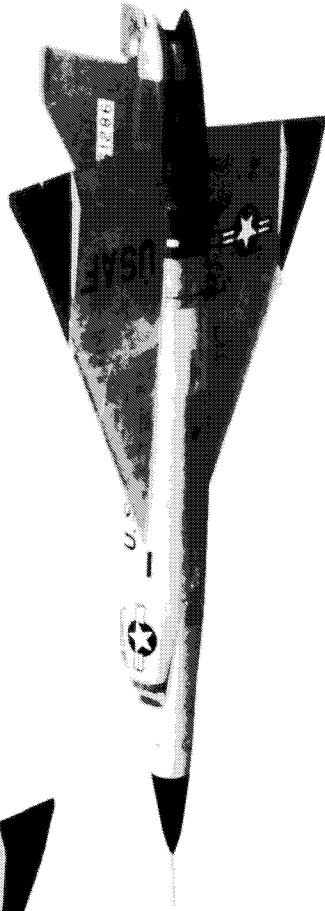
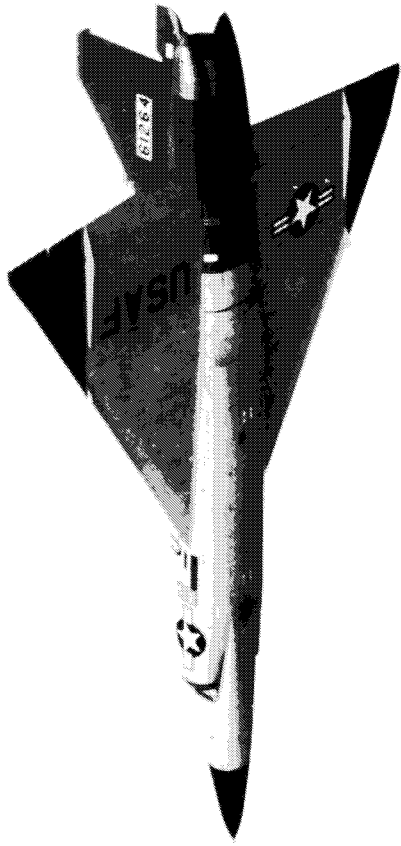
**50067**





This North American Air Defense Command fighter interceptor is one of those assigned to guard the southwestern U.S. It is an F4D Skyray, operated by the only Navy fighter unit on full time duty with NORAD--All Weather Fighter Squadron Three, at North Island Naval Base, San Diego. The plane is armed with the Sidewinder missile, which has an infrared guidance system for homing on the tailpipe of enemy aircraft, and the F 75 Mighty Mouse rocket

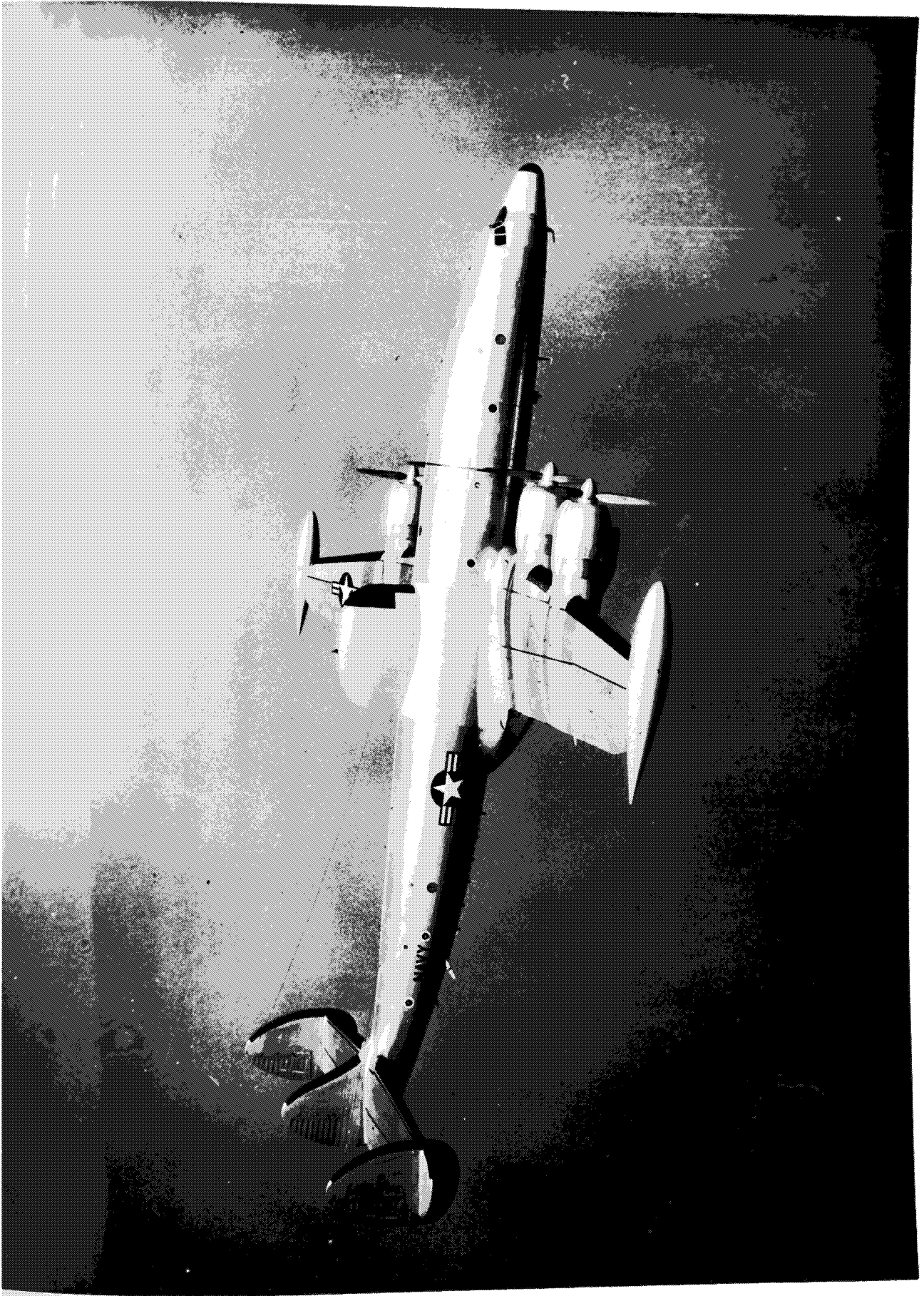




**SKY KNIGHTS -- A brace of General F-102's "Duke Daggers" slice through skies on a mission of freedom. First of the super sonic, all-weather interceptors within the North American Air Defense Command weapon inventory, the F-102A carries for armament the Talon air-to-air guided missile, both heat-seeking and radar. A high altitude, long-range aircraft, the "Duke Dagger" has the capability of intercepting the enemy at distant points from target areas should the possibility of an attack on North America become a truth.**

**GENERAL INFORMATION**

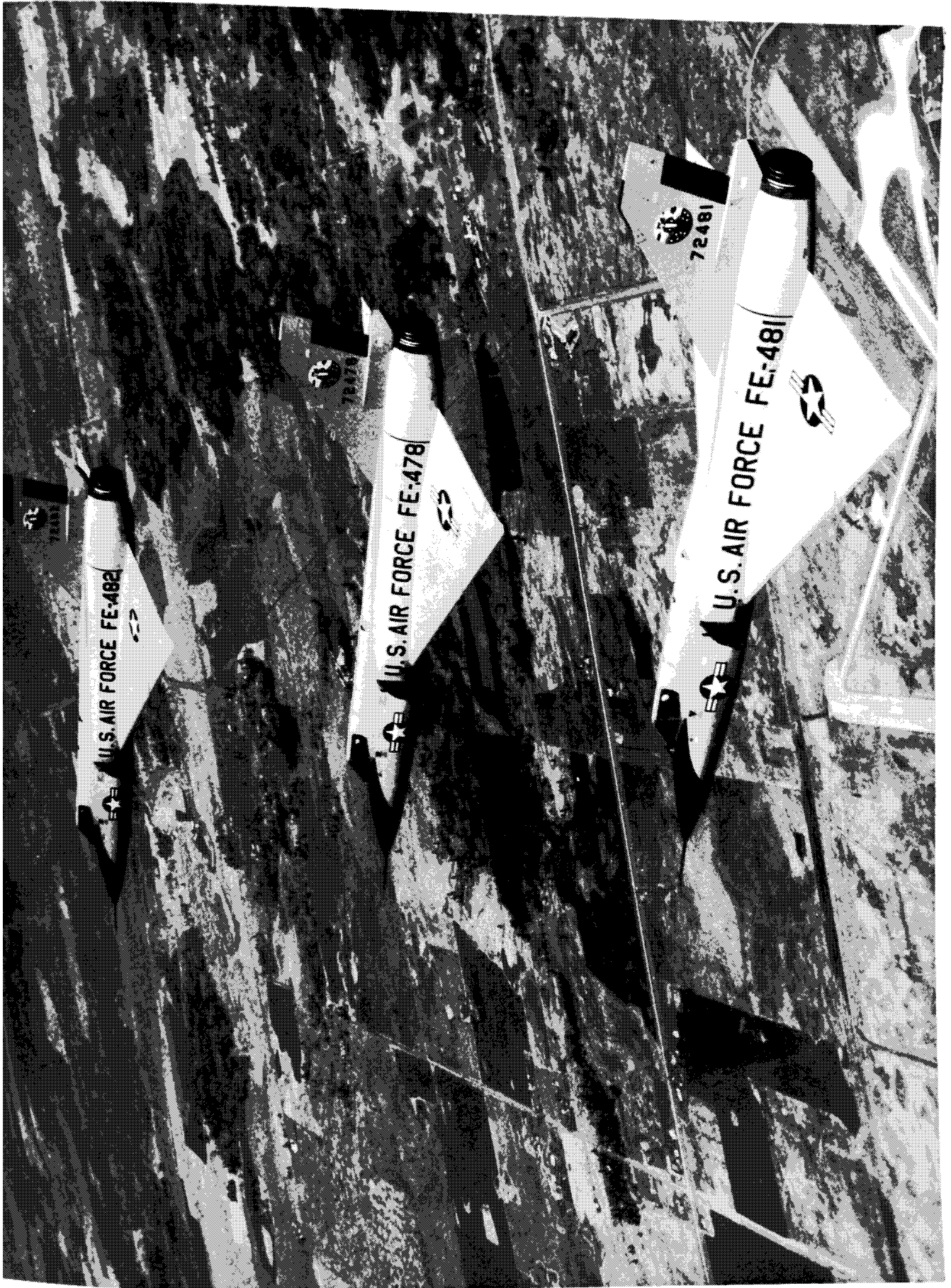




The U. S. Navy extends the Distant Early Warning (DEW) Line of radar stations outward from North America by using these WV-2 Super Constellations as radar platforms. The WV-2s are crammed with specialized equipment and, by a relief system, continually patrol eastward from Newfoundland to the mid-Atlantic and westward from the Aleutians to the mid-Pacific. A WV-2 carries a 32 man crew composed of electronic technicians, radio and radar men, air controllers and flight crew; and has the capability to control fighter planes and direct intercepts.

(OFFICIAL NORAD PHOTO)

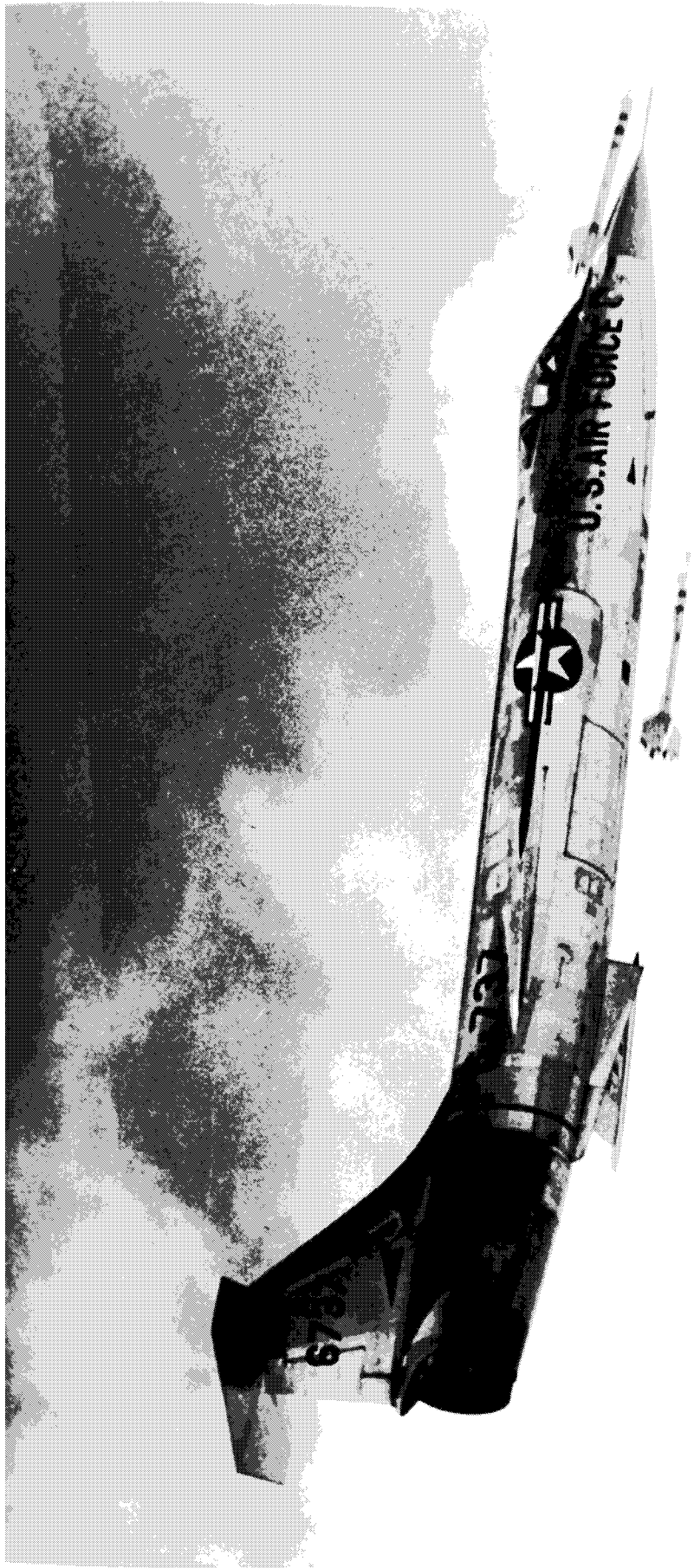




**THREE OF A KIND BEATS A FULL HOUSE -- Three fifteen hundred mile-an-hour F-106 fighter interceptors pose for their portrait at twenty-five thousand feet over the Pacific Northwest. These aircraft, newest entry into the fighter inventory of the North American Air Defense Command, are armed with both Genie air-to-air atomic rockets and the Falcon family of guided missiles. The combination of mach 2 platforms, unbelievable firepower and a data link system that ties the fighter to the SAGE computer system gives NORAD a capability to meet manned bombers far out from our populated areas under any weather conditions, day or night. The USAF Air Defense Command has programmed squadrons of these weapons for defense of strategic locations in the United States.**

**(OFFICIAL NORAD PHOTO)**





**MANNED MISSILE--The F-104 Starfighter, pictured as it looses a homing Sidewinder missile from each wingtip, is one of the speedy fighters flown by the U.S. Air Force in the North American Air Defense Command. The stubby-winged (7 1/2 feet from tip to fuselage) interceptor flies at more than 1,400 miles an hour and has a ceiling above 60,000 feet. In the air defense business, these figures translate to interception of an enemy faster and farther from target areas. In addition to the Sidewinders, the Starfighter is armed with a six-barreled, 20-millimeter Vulcan cannon, a 20th century version of the Civil War's Gatling gun.**

**(NORAD PHOTO)**

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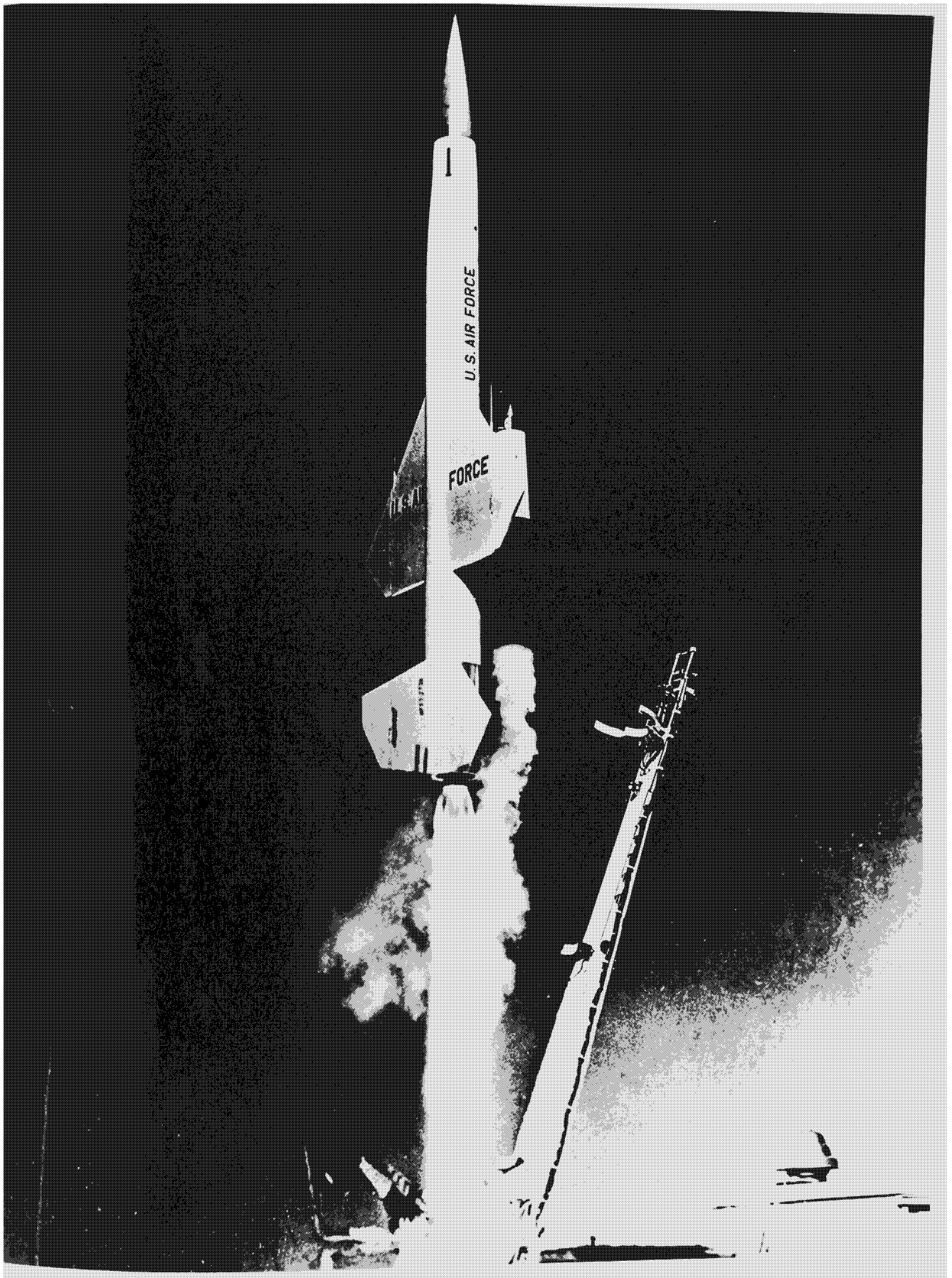




**SEA SENTRY - - The AGR, Radar Picket Ship, lumbers seaward to the task of detecting aircraft that fly at twice the speed of sound. The AGRs are the World War II mass-produced Liberty ships that then carried the bulk of military cargo to the four corners of the world. Now assigned to the North American Air Defense Command, they have been converted to pickets, and top sides have erupted with radar and radio antenna of every description. On station several hundred miles off the North American coasts, the AGR is in continuous radio contact with the nearest shore radar station. If a contact is made by the AGR on station, this information is relayed to the AC&W (Aircraft Control and Warning) ashore. If the contact is not immediately identified by information held on prearranged flight plans of all commercial and military aircraft, NORAD fighters from the nearest interceptor base are scrambled and directed to intercept and identify the contact. It is possible for the AGR or the shore station to control the intercept if necessary.**

**(OFFICIAL NORAD PHOTO)**





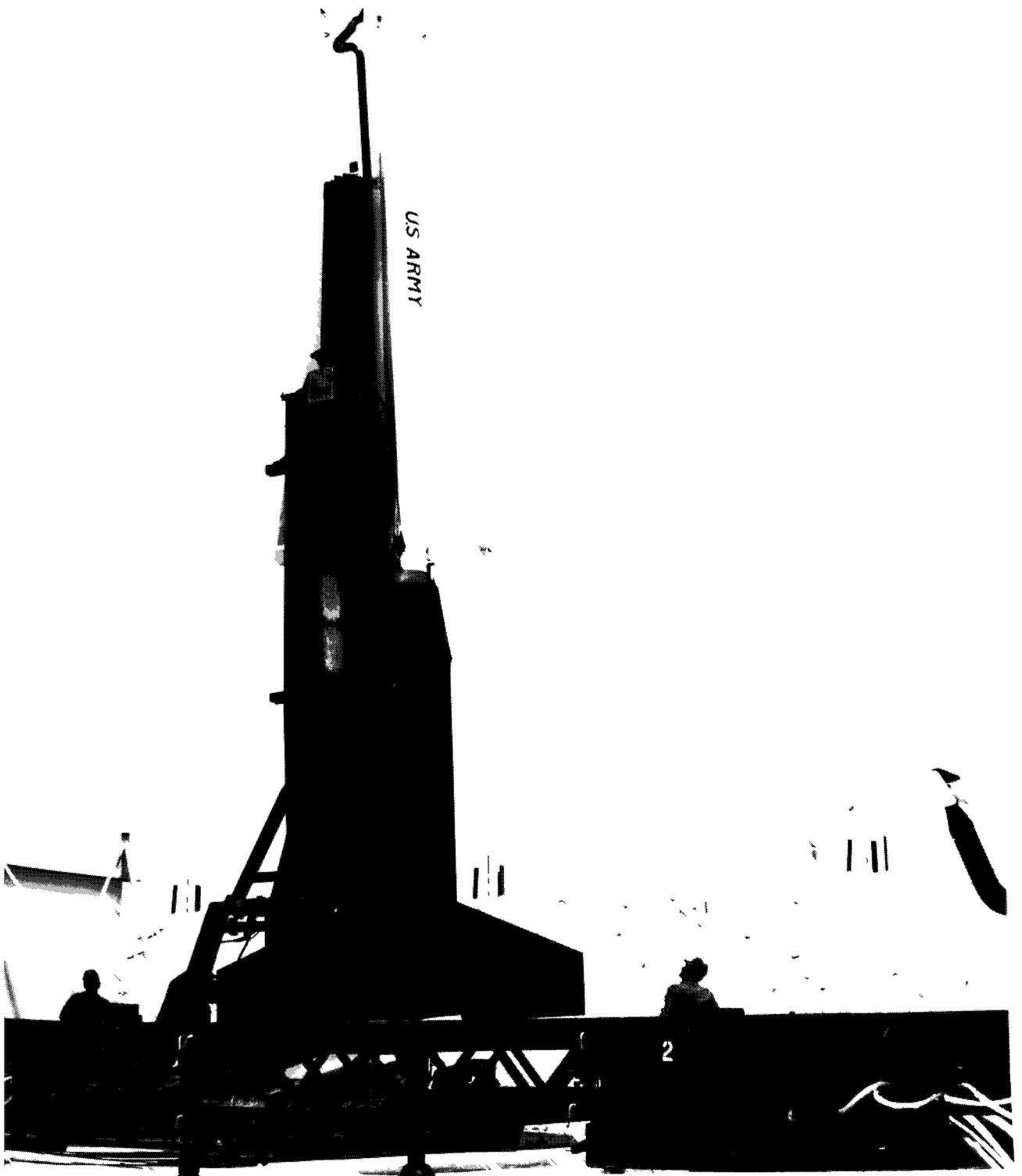




**FAMILY PORTRAIT** Three generations of the U.S. Army's Nike missile family get their noses up for a clan candid. From left to right the Nike-Ajax, Nike-Hercules and Nike-Zeus. Nike-Ajax and Nike-Hercules are the first and second generation missiles currently guarding key areas in the United States and overseas from aircraft attack. In the U.S. they belong to the weapons systems of the United States Army Air Defense Command, the Army component of the North American Air Defense Command (NORAD). The third member of the family is the Nike-Zeus, which is under development and is being designed to defend North America against attack by intercontinental ballistic missiles.

**(Official NORAD Photo)**





US ARMY

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**MIGHTY HERCULES--A three-times-the-speed-of-sound carrier of a big warhead, the Nike Hercules is the second generation of the Nike family of supersonic missiles that has been deployed with units of the U.S. Army Air Defense Command. One of the weapons in the North American Air Defense Command system designed to intercept enemy bombers en route to continental targets, the Hercules is a nuclear-capable weapon with a range of more than 75 miles and an altitude capability well over 150,000 feet.**

**(NORAD PHOTO)**

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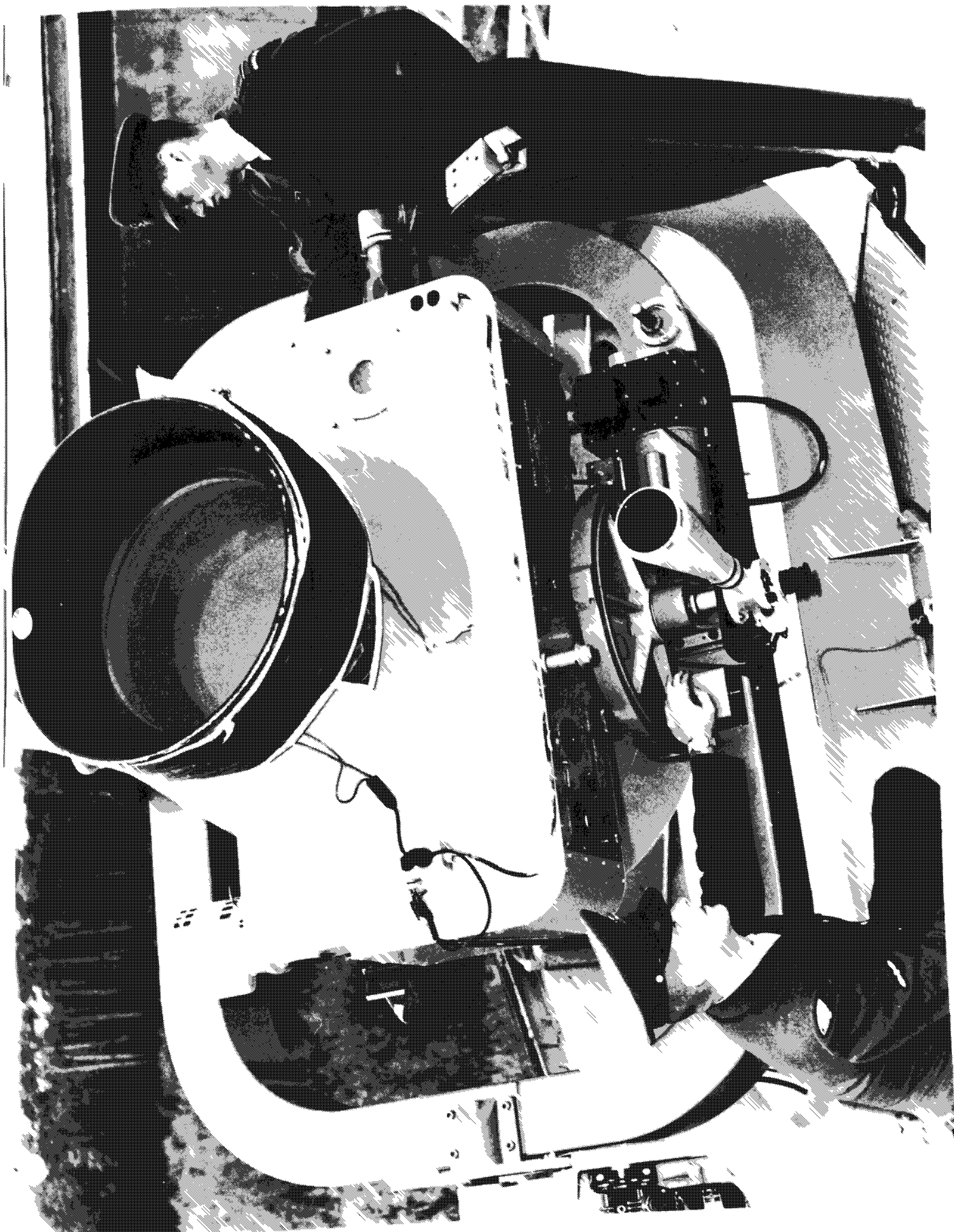
**BATTLE READY--Members of a Hawk (for homing-all-the-way-killer) missile crew race to their weapons during a practice alert at the installation at Key West, Fla. Manned by missilemen of the U.S. Army Air Defense Command, the Hawks are specialists at bringing down low-altitude targets--from tree-top level to more than 38,000 feet. The mobile missiles first entered the continental air defense picture during the 1962 Cuban crisis and were deployed on Florida beaches. They are now a permanent part of the North American Air Defense Command arsenal.**

**(NORAD PHOTO)**

**Neg #646-65-24**

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SPACE 2270 MI - 27000 MI SURVIVE AND REUSE SATELLITES AND TRACKING NETWORK - 16 000 MI  
American M Defers - Our remote satellite data from and tracking network is the Baker-  
camera, which can photograph (to a ref) from an object the size of a basketball at 50,  
50,000 miles. This one, at Wood Lake, Alberta, is operated by the Canadian Air Force  
Air Defence Com. and Others supplying data to the NORAD Space Defense Center at  
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By identification and correlation of known star backgrounds in the Baker-  
a satellite's position can be determined with great precision and accuracy. (Baker-  
16 000 MI)

PHOTOGRAPH

16 000 MI

APPENDIX 6

ABSTRACT OF

The Effect on Canada of NORAD, the  
North American Air Defence Command

The North American Air Defence Command, commonly known as NORAD, has affected Canada in many ways since 1957. It is a current manifestation that Canadian-United States relations have indeed progressed over the centuries from outright hostility to close military alliance.

It furnishes periodically the only instance in which a foreign officer, a Canadian, ever commands United States forces in the United States in time of peace. At peak strength the NORAD forces have reached two hundred thousand men, with up to 69 manned interceptor squadrons and 110 batteries of NIKE HERCULES air defence missiles, plus several batteries of HAWK and several squadrons of BOMARC missiles.

The effect of this immense system on Canadian politics was highlighted by the nuclear weapon question in general and the BOMARC missile system in particular. The violent election of 1963 pivoted to a great extent on the nuclear-NORAD issues, with the Conservatives losing governmental control to the Liberal Party.

International relations between Canada and her NATO allies, especially the United States, were affected by Canada's

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Long hesitation on whether or not to accept nuclear warheads into her forces. She was the last NATO nation to come to a decision. This was partially so because of the sovereignty issue on who would actually control the weapons--the United States, or the Canadian commander. In spite of this political strain, however, the Canadian and United States armed forces have developed close working relationships and great mutual respect. They seem to exert a stabilizing influence on the political climate.

In addition, the economy of Canada was strengthened for over ten years by the huge construction projects on the radar lines, by aircraft and missile contracts and by military payrolls of United States forces stationed temporarily in Canada.

Finally, the Far North was explored more thoroughly and quickly because of the pressure to complete the NORAD air defences of the continent. There followed an inevitable dislocation and modernization of numerous groups of Cree Indians and Eskimos with benefits of sometimes dubious value.

In reviewing NORAD's ten years of existence, it is evident that it has been a changing and evolving organization. In 1967 this characteristic is still evident, and the political controversy over ballistic missile defence may presage future years much like those just past.