

REFERENCE PAPERS



INFORMATION DIVISION
DEPARTMENT OF EXTERNAL AFFAIRS
OTTAWA - CANADA

NO. 77
(Revised February 1958) "CANADIAN DEFENCE AND NATO"

(Prepared by the Department of National Defence)

Under the direction of the Minister of National Defence, the three Chiefs of Staff are responsible for the control and management of their respective Armed Services, the Chairman of the Defence Research Board for the Defence Scientific Service, and the Deputy Minister for the departmental civilian administration. The Chairman of the Chiefs of Staff Committee is responsible to the Minister for ensuring that all matters of defence policy, in its widest sense, are carefully examined and co-ordinated before decisions are made.

As at December 31, 1957

| | |
|----------------------------------|----------------------------------|
| Minister of National Defence | - Honourable George R. Pearkes |
| Deputy Minister | - Mr. F.R. Miller |
| Chairman, Chiefs of Staff | - General C. Foulkes |
| Chief of the Naval Staff | - Vice Admiral H.G. Dewolf |
| Chief of the General Staff | - Lieutenant General H.D. Graham |
| Chief of the Air Staff | - Air Marshal Hugh Campbell |
| Chairman, Defence Research Board | - Mr. A.H. Zimmerman |

Strength

Personnel for Canada's Regular and Reserve Forces and School Cadet Corps are enlisted on a voluntary basis and the following figures show the strength totals by Services for December 31, 1957, and, by comparison, the totals on the eve of the signing of the North Atlantic Treaty.

Regular Forces

| | <u>Navy</u> | <u>Army</u> | <u>Air Force</u> | <u>Total</u> |
|---------------|-------------|-------------|------------------|--------------|
| Dec. 31, 1957 | 19,805 | 47,938 | 51,661 | 119,414 |
| Mar. 31, 1949 | 8,154 | 18,970 | 14,552 | 41,676 |

Reserve Forces

| | <u>Navy</u> | <u>Army</u> | <u>Air Force</u> | <u>Total</u> |
|---------------|-------------|-------------|------------------|--------------|
| Dec. 31, 1957 | 4,881 | 43,103 | 5,259 | 53,245 |
| Mar. 31, 1949 | 3,272 | 36,311 | 1,427 | 41,010 |

School Cadet Corps

| | <u>Navy</u> | <u>Army</u> | <u>Air Force</u> | <u>Total</u> |
|---------------|-------------|-------------|------------------|--------------|
| Dec. 31, 1957 | 10,364 | 69,715 | 20,657 | 100,736 |
| Mar. 31, 1949 | 7,223 | 47,472 | 12,668 | 67,363 |

Royal Canadian Navy

The strength of the RCN fleet at December 31, 1957 was 46 ships in commission. Warships in commission included one light fleet carrier, one cruiser, 16 destroyer escorts, 11 frigates, 2 coastal escorts, 10 coastal minesweepers and 3 patrol craft. In addition, there were one repair ship and 127 minor craft.

A total of 7 of the Canadian designed St. Laurent class ships were in commission by the end of 1957. The first ships of the subsequent seven Restigouche class ships will be commissioned in 1958.

There are three frigates and five coastal escorts in service with other government departments and three Prestonian class ships are on indefinite loan to the Royal Norwegian Navy.

The first five of ten Bangor class coastal escorts made available to NATO under Mutual Aid were transferred to the Turkish Navy late in 1957, present plans being that the second five will be transferred early in 1958. In addition, four new coastal minesweepers have been offered to Turkey under Mutual Aid.

The Royal Canadian Navy operates 68 shore establishments, of which 46 are full-time RCN establishments and 22 are operated by and for RCN (Reserves).

Canadian Army

The Regular Army consists of headquarters, supporting units and the NATO forces. The NATO forces consist of the 4th Canadian Infantry Brigade Group in Europe, and in Canada two further brigade groups, formerly a part of the 1st Canadian Infantry Division. Late in 1957 it was decided that Headquarters 1st Canadian Infantry Division would be reduced to nil strength early in 1958. Equipment for the Divisional Headquarters will be kept available and the technique of command and administration will continue to be practised by General officers and their staffs so that if, at any future time, two or more of the brigade groups are operating together, personnel and equipment will be available to organize and operate a tactical divisional headquarters.

Royal Canadian Air Force

As at December 31, 1957 the RCAF was operating a total of 370 regular and auxiliary units, including eight command and one group headquarters, 40 flying squadrons, and other flying formations such as search and rescue, UNEF air transport, flying training and operational training units. Also included are ground training schools, the newly-operational Mid-Canada Line stations, supply depots, etc. The regular force squadrons include eight Sabre and four CF-100 squadrons in Europe as part of Canada's contribution to the NATO Integrated Forces; nine CF-100 squadrons for air defence in Canada; four transport squadrons; three maritime patrol squadrons and one reconnaissance squadron. In December 1957, the Minister announced the progressive changeover to a new role of emergency and rescue for auxiliary flying squadrons.

Tri-Service

In recent years substantial progress has been made towards co-ordinating activities of the three Services in order to improve overall efficiency and to effect economies. While much of this work is carried out at headquarters, much has also been done in operational and training fields. The three Services now have staffs on six joint service or tri-service establishments, which include the Canadian Joint Air Training School at Rivers, Manitoba; the Joint Atomic, Biological and Chemical Warfare School at Camp Borden, Ontario; the Royal Military College of Canada at Kingston, Ontario; Royal Roads near Victoria, British Columbia; and College Militaire Royal de St-Jean, St-Jean, Quebec. In addition, each of the Services are represented on the Joint Staffs at Washington and London.

Defence Research

The valuable work performed by the National Research Council during the Second World War led to the establishment in 1947 of the Defence Research Board under the direction of the Minister of National Defence. The Board, which has quickly gained recognition as "the fourth

service", has built up a carefully selected staff, together with laboratories and field research establishments. The Board also co-operates closely with Canadian universities in the carrying out of numerous research projects related to defence.

Defence Research Board concentrates its efforts on projects which are of specific interest to Canada and for which this country has unique facilities and resources. At the same time close liaison is maintained with the United Kingdom and the United States in all phases of defence research and development, thus ensuring as strong and as unified an effort as possible.

The appropriations for defence research and development have greatly increased in recent years as the Board's capacity to undertake work has grown. This year Parliament has authorized \$64,796,000 for this work. The proportion of this amount for research is \$24,188,000; for naval development projects - \$4,000,000; army development projects - \$4,870,000; and air force projects \$31,738,000.

The amount allotted for research covers the operation of the Board's eleven research laboratories situated at Dartmouth, Nova Scotia, Valcartier and Grosse Ile, Quebec; Kingston, Ottawa and Toronto, Ontario; Fort Churchill, Manitoba; Suffield, Alberta; and Esquimalt, British Columbia. In addition, this money covers the costs of staff, including those at headquarters, consultants and advisory committees and panels; a certain amount of construction, and the programme of research grants and contracts with Canadian universities.

CANADA AND NATO

General

As early as September 1947, Canada expressed recognition of the need for an organization along the lines of NATO. Historic ties of tradition, race, language and religion have given Canada special reasons for working closely with a considerable number of NATO member nations to achieve increasing unity within the group as a whole, and considerations of trade and immigration have strengthened the bonds between Canada and virtually

all of the other member nations. From the military point of view, Canada's participation in two world wars has led to the conviction that in the world as it is today the defence of Canada, continental defence, and the defence of Western Europe are all inseparable parts of the same problem: the defence of western civilization by ensuring through the manifest strength of NATO that aggression will be deterred and peace maintained.

NATO - European Area

Following the decision by NATO member nations to establish integrated forces in Europe, Canada undertook a special recruiting programme in the summer of 1951 and towards the end of that year the 27th Canadian Infantry Brigade Group took its place in Europe alongside the forces of our allies. The 1st Canadian Infantry Brigade, proceeded to Germany and relieved the 27th Brigade there in November 1953. Since then the Brigade in Europe has been rotated in 1955 and 1957 - 2nd Canadian Infantry Brigade Group 1955 to 1957 and 4th Canadian Infantry Brigade Group October 1957 to date. The Brigade Group is quartered in four camps in the Soest area of Germany.

Canada's commitment to the NATO integrated air forces consists of eight squadrons of F-86 Mark 6 interceptor day fighters, and four squadrons of CF-100 Mark 4B all-weather fighters. These RCAF air division forces are located at four bases; Marville and Grostenquin in France, and Zweibrucken and Baden-Soellingen in Germany, with the Division Headquarters at Metz, France, and a supply depot at Langar, England. Two air transport units, one at Metz, the other at Langar, and an Air Weapons Unit, Decimonannu Sardinia, are also provided.

NATO - SACLANT

Canada continues to be one of the NATO members directly concerned with providing sufficient sea power in the North Atlantic Treaty area. Canada has earmarked the major part of her fleet to NATO service in war, the largest block assignment being for anti-submarine operations under the Supreme Allied Commander Atlantic (SACLANT). At present the RCN has 47 ships earmarked for D-Day NATO service.

In addition, there is a commitment for the assignment of maritime aircraft to SACLANT. These aircraft will include the Argus, which is being developed and built in Canada specifically for maritime operations.

NATO - Canada-U.S. Region

The defence of Canada is, of course, the primary task of Canada's Armed Forces. However, it is difficult to separate Canada's defence at home from NATO, because almost everything that is now being done for continental defence by the working partnership of Canada and the United States follows naturally from our NATO commitments. The defence of the North American continent is of very great concern to NATO not only because of the vast industrial potential of the Canada-United States region but also because the U.S. Strategic Air Force constitutes the major bombing force capable of carrying out nuclear retaliatory action against an aggressor.

For the defence of the Canada-U.S. region, Canada has available a brigade group less an armoured regiment. The three infantry battalions of this group each have a parachute element. These battalions, plus supporting arms and services, are available to deal with enemy lodgements, particularly in the North.

The air defence systems of Canada and the United States which were previously closely co-ordinated at all levels of command centres have now been placed under the operational control of an integrated headquarters North American Air Defence Command (NORAD) at Colorado Springs, Colorado. The joint air defence system provides facilities for detecting and identifying potentially hostile aircraft; interceptor aircraft and anti-aircraft weapons to deal with attacking forces; and co-ordinated communications and command centres.

The R.C.A.F. at present maintains nine regular squadrons equipped with long-range all-weather CF-100 jet aircraft for interception duties. Eight of these squadrons are deployed in eastern Canada and one in western Canada.

In Canada, there are three radar systems; the Pinetree System, the Mid-Canada Line, and the Distant Early Warning Line. The Pinetree System, a joint Canada-United States project, provides the radar network and communications system to direct interceptor forces under the operational control of NORAD. As a result of further joint planning, Canada has constructed, financed and operates a second and supplementary warning line, the Mid-Canada Line, which runs generally along the fifty-fifth parallel

of latitude, north of the settled areas in this country. Construction of the third line, the Distant Early Warning Line, has been carried out by the United States in the Arctic area between Alaska and Greenland. Canada is contributing such resources of the Armed Forces as can be made available for facilitating work on the DEW project, and the government is also assisting United States authorities in organizing and using extensive Canadian civilian resources.

The Ground Observer Corps is an organization of some 51,000 civilian volunteers who are assisted by regular force R.C.A.F. officers in matters of administration and training. The Corps mans some 5,000 observation posts and 10 filter centres, strategically located across Canada to detect and report low flying aircraft.

CANADA'S MUTUAL AID PROGRAMME

From the inception of Canada's Mutual Aid Programme in April 1950, Canada has provided military aid to twelve of the other member nations of NATO to the extent of \$1,408,000,000 to 31 March 1957 and an estimated total of \$1,538,000,000 to 31 March 1958. The main elements in the successive annual programmes have been:

- (a) Aircrew training in Canada for other NATO countries;
- (b) Transfers of equipment from service stocks;
- (c) Transfers of equipment from direct production;
- (d) Contribution towards the NATO Common Infrastructure and Military Budgets.

The 1957-58 estimates provide \$130,000,000 for Mutual Aid. The figures for expenditures in previous years and for this year's estimates are attached.

The NATO aircrew training programme was introduced in 1951 because of the critical need of NATO for trained aircrew. By 31 December 1957 under the plan a total of 2,763 pilots and 2,412 navigators and observers from Belgium, Denmark, France, Greece, Italy, the Netherlands, Norway, Portugal, Turkey and the United Kingdom had graduated from training establishments in Canada. An additional 382 pilots and 77 navigator trainees were undergoing training at that date.

The NATO Aircrew Training Programme is now being curtailed by a gradual reduction of trainee intake leading up to the suspension of the programme in 1958. The final class under this programme began in June 1957 and will graduate in the mid-summer of 1958. However, Canada has agreed that as the intake under this programme is reduced the air training establishment will be used to train 360 German pilots on the condition that the German government will reimburse Canada for the additional costs of maintaining the training facilities for the required period of time. During the same period Canada has also agreed to provide aircrew training for Norway, Holland and Denmark, the cost to be reduced by token payments by these countries of \$5,000 for each pilot entry and \$2,000 for each navigator entry.

The training of aircrew in Canada for NATO countries is of benefit to NATO as a whole and to Canada. It provides the aircrew for NATO and has enabled the R.C.A.F. to make maximum use of its training establishments and equipment on a more economical per capita basis. Moreover, the training of R.C.A.F. personnel alongside their NATO allies has certain inherent advantages which are by no means limited to their purely technical educational value. NATO trainees have shown a keen interest in the general courses which are given to acquaint them with Canada, our peoples and customs, as well as Canadian service procedures.

The supply of military equipment and materials to other members of NATO forms a significant part of the Canadian contribution to the common defence. Under the Canadian Mutual Aid Programme, offers of finished military equipment are made to NATO as a whole through the Standing Group, offers of components and materials for manufacture of military items are made through the NATO Secretariat. These bodies are asked by Canada to recommend allocations to NATO nations. The allocations recommended are normally approved by Canada, and the equipment is then offered formally by Canada to the designated nations through diplomatic channels. This procedure ensures that equipment offered by Canada is transferred to the nation or nations best able to use it to the advantage of the whole organization.

Mutual Aid offers to date have included armament and ammunition, aircraft and engines, military transport vehicles, etc., from existing stocks; walkie-talkie radio sets, 155 mm. howitzers, No. 4 Mark 6/2 radar

sets, ammunition and explosives, minesweepers, and aircraft from new production. Some of the most important items included in this year's programme are minesweepers and coastal escort vessels, Harvard Mk 2 and T33 Mk 3 aircraft, and 90 MM AA guns and fire control equipment. Canada also contributes to the NATO Common Infrastructure Programmes and NATO Military Budget in accordance with agreed cost sharing formulae.

In accordance with the North Atlantic Council's aim of equipping all NATO forces with the most modern weapons, Canada's Mutual Aid Programme will continue to emphasize transfers of equipment of current types.

RP/C
March 1958

DEPARTMENT OF NATIONAL DEFENCE

Canadian Contributions to Infrastructure and NATO Budgets

(Thousands of Canadian Dollars at \$2.80 per 1£ Sterling)

1 - Canadian Portion of Infrastructure Programme

| Infrastructure Programme | Total Value of Programme | Total Canadian Obligation | Canadian contribution as percentage of Programme |
|--------------------------------|--------------------------|---------------------------|--|
| 1951 Programme | 349,440 | 15,480 | 4.43 |
| 1952 Programme | 512,960 | 27,340 | 5.33 |
| 1953 Programme (1st Part)..... | 219,800 | 13,715 | 6.24 |
| 1953 Programme (2nd Part)..... | 187,600 | 13,375 | 7.13 |
| 1954 Programme | 245,560 | 17,508 | 7.13 |
| 1955 Programme | 250,600 | 17,868 | 7.13 |
| 1956 Programme | 128,800 | 9,183 | 7.13 |
| 1957 Programme | 268,660 | 16,523 | 6.15 |
| Totals | 2,163,420 | 130,992 | |

II - Expenditures on Infrastructure by Fiscal Year

| Fiscal Year | From Special Infrastructure Appropriation | From Mutual Aid Appropriation | Total Expenditure |
|--------------------------|---|-------------------------------|-------------------|
| 1951-52 | 1,770 | | 1,770 |
| 1952-53 | 7,080(a) | 1,198 | 8,278(a) |
| 1953-54 | 9,651 | 1,966 | 11,617 |
| 1954-55 | 5,863 | 4,287 | 10,150 |
| 1955-56 | | 9,434 | 9,434 |
| 1956-57 (Forecast)..... | | 13,500 | 13,500 |
| 1957-58 (Estimate)..... | | 17,000 | 17,000 |
| Total Expenditures | 24,364 | 47,385 | 71,749 |

(a) Expenditures of \$3,307,234 in 1952-53 on ex-infrastructure (i.e. facilities over minimum SHAPE standards) are not included.

III - Expenditures for NATO Budgets by Fiscal Year

| Fiscal Year | From Special Appropriation | From Mutual Aid Appropriation | Total Expenditure |
|--------------------------|----------------------------|-------------------------------|-------------------|
| 1951-52 | 1,749 | | 1,749 |
| 1952-53 | 914 | 938 | 1,852 |
| 1953-54 | 870 | 787 | 1,657 |
| 1954-55 | 779 | 1,141 | 1,920 |
| 1955-56 | | 1,107 | 1,107 |
| 1956-57 (Forecast) | | 1,000 | 1,000 |
| 1957-58 (Estimate) | | 1,300 | 1,300 |
| Total Expenditures | 4,312 | 6,273 | 10,585 |

DEPARTMENT OF NATIONAL DEFENCE

Expenditures on Mutual Aid Programmes by Fiscal Year
(Thousands of Dollars)

| Elements of Programme | Expenditure | Expenditure | Expenditure | Expenditure | Expenditure | Expenditure | Estimated | |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | 1950-51 | 1951-52 | 1952-53 | 1953-54 | 1954-55 | 1955-56 | 1956-57 | 1957-58 |
| Procurement of Material for Mutual Aid | | 2,930 | 32,833 | 33,181 | 25,079 | 15,758 | 8,081 | 4,464 |
| Transfers of Equipment from Service Stocks | 195,417 | 74,934 | 95,456 | 182,433 | 169,984 | 97,611 | 63,679 | 81,663 |
| NATO Air Crew Training | | 48,552 | 104,628 | 71,340 | 52,890 | 51,056 | 47,753 | 28,573 |
| Infrastructure and NATO Budgets * | | | 2,136 | 2,753 | 5,427 | 10,541 | 14,040 | 15,300 |
| Total Mutual Aid | 195,417 | 126,416 | 235,053 | 289,707 | 253,380 | 174,966 | 133,553 | 130,000 |

* - These amounts represent only portions (of Infrastructure costs and NATO Budgets) which were chargeable to Mutual Aid. In addition the following expenditures were charged to the special Infrastructure vote; 1951-52 - \$3,519,000; 1952-53 - \$11,302,000 (includes \$3,307,000 exinfrastructure); 1953-54 - \$10,521,000; 1954-55 - \$6,641,967; 1955-56 - and subsequent years all expenditures charged to Mutual Aid.

DEPARTMENT OF NATIONAL DEFENCE

Deliveries of Materials and Supplies by Recipient NATO Countries from Inception of Programme to December 31, 1956
Actual and Estimated Expenditures from Inception to March 31, 1957, Including NATO Aircrew Training
(Millions of Dollars)

| | Belgium | Denmark | France | Germany | Greece | Italy | Luxembourg | Netherlands | Norway | Portugal | Turkey | United Kingdom | Total |
|--|---------|---------|--------|---------|--------|--------|------------|-------------|--------|----------|--------|----------------|-----------------|
| Transfers from Stocks-- | | | | | | | | | | | | | |
| Divisional Equipment | 56.75 | 13.40 | 18.60 | .80 | .23 | 50.00 | .73 | 56.75 | 1.25 | 41.18 | 10.69 | 8.46 | 163.50 |
| Armament | 5.79 | 5.63 | 17.94 | Nil | .28 | 30.71 | .62 | 2.66 | 3.99 | 12.00 | 2.89 | 5.07 | 134.50 |
| Ammunition | 18.28 | 4.91 | 7.90 | Nil | .05 | 19.58 | .01 | 9.73 | 1.54 | 9.11 | 10.38 | 1.72 | 96.01 |
| Mechanical Equipment | .62 | .18 | 11.42 | Nil | .06 | 9.62 | Nil | 7.78 | .64 | 2.59 | 1.37 | .40 | 53.64 |
| Electronic Equipment | .35 | .12 | Nil | Nil | Nil | 10.62 | Nil | 2.95 | 1.26 | .01 | .89 | .68 | 30.58 |
| Aircraft and Engines | Nil | | | | | | | 1.4 | | | | | 3.10 |
| Transfers from New Production | | | | | | | | | | | | | |
| Armament | 1.90 | 1.96 | 2.63 | Nil | Nil | 5.77 | Nil | .81 | Nil | Nil | 2.27 | Nil | 15.34 |
| Ammunition | 5.45 | 5.02 | 6.68 | Nil | Nil | 8.89 | .06 | 4.99 | 1.63 | 2.90 | 3.27 | 19.49 | 58.38 |
| Electronic Equipment | 3.22 | 4.77 | 2.60 | Nil | .20 | 9.57 | Nil | 5.97 | 1.45 | .54 | .14 | 19.22 | 47.68 |
| Aircraft and Engines | 1.27 | .22 | 12.69 | Nil | 69.14 | 6.49 | Nil | 1.32 | 1.14 | .53 | 74.68 | 110.65 | 278.13 |
| Ships | Nil | Nil | 26.42 | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | 26.42 |
| Total Value of Transfers * N.A.T.O. Aircrew Training ** Infrastructure and N.A.T.O. Budgets | 93.63 | 36.21 | 106.88 | .80 | 69.96 | 151.25 | 1.42 | 93.10 | 12.90 | 68.86 | 106.58 | 165.69 | 907.28 |
| Further anticipated Expenditure to March 31, 1957 *** | | | | | | | | | | | | | 379.94 |
| | | | | | | | | | | | | | 35.36 |
| | | | | | | | | | | | | | 85.51 |
| | | | | | | | | | | | | | <u>1,408.09</u> |

* This statement is based on actual shipments of materials and supplies to December 31, 1956.

** Values represent actual and estimated expenditures to March 31, 1957.

*** Includes progress payments on production items, undelivered and unallocated items which are expected to be cleared before March 31, 1957.