



## STATEMENTS AND SPEECHES

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THE INDUSTRIAL DEFENCE OF CANADA

An address by Hon. Brooke Claxton, Minister of National Defence, at the Annual Banquet of the Canadian Ordnance Association, at the Windsor Hotel, Montreal, on Thursday, October 7, 1948.

Modern defence planning, especially for a country like Canada, is a continuous process of developing fighting forces which will be the nucleus for the training and rapid expansion of larger forces in case of emergency. It involves keeping our full potential defence forces adjustable and flexible enough to keep step with developments in which we may be involved.

This process calls for steady, persistent and stable preparation and planning. From time to time reports to the nation are issued by the Department of National Defence. These endeavour to inform the taxpayer of the important stages of our defence programme, as they are completed. Their cumulative effect is under regular review by the Department.

The factors in our programme are:

- (1) Manpower
- (2) Training programmes
- (3) Equipment - research, development, production
- (4) The national economy and the extent to which it can be diverted to non-productive defence output
- (5) Developing plans for co-operation with other democracies to meet attack on our western community.

Defence today depends on industry. The industrial power of North America was the ultimate reason for the defeat of Nazi Germany. As Hanson Baldwin has said:

"The factories of America, the industrial know-how of America, and the mechanical competence of America ... won the war."

In Canada we have made Defence Research a fourth arm; industry is the fifth and on it depends all the rest.

Recognizing this, ranking service officers suggested the formation of this Association and I was glad to welcome this at your first meeting a year ago. Since then you have made satisfactory progress.

There is no need here to stress the importance of industrial organization for defence purposes and I propose to deal specifically with all the main aspects of industrial defence planning. In doing so you will see that for convenience I frequently use illustrations from the Army but it should be remembered that the Navy and Air Force present problems of even greater difficulty

because it takes longer to make ships or planes than it does tanks.

MEMORANDUM FOR THE RECORD

The importance of industrial and technical development is strongly reflected in the changed position of the Armed Forces. In the Army, the Engineers, Signals, Service Corps, Ordnance Corps and RCEME have today a total of over 8,500 officers and men and employ a total of 10,000 civilians. Ordnance has the three largest depots of their kind in Canada and I think you have been impressed today with what you have seen of the work done at Longue Pointe. Ordnance handles 216,000 different articles. RCEME operates 28 workshops, each well equipped for the job it has to do. Signals operates 34,000 miles of modern radio teletype services. Its 22 stations supply all the communications in the Northwest Territories and it also operates 6 radio stations there. The three Services have in use or in mobilization stores about 25,000 motor vehicles. The Transport Command of the R.C.A.F. operates 14 regular long distance services a week.

To provide officers of the high quality required today, Canada has in full operation a comprehensive training programme. We have over 3,500 officers or officer candidates in training to a general level of university graduate standard, who will have a year of practical experience in the work of their service. In proportion to population no other country has so many officers training to such standards.

In all these respects we are in quite a different position from where we were in 1939. Also, we have a large part, probably two-thirds, of the equipment that would be required for the forces during the first year of an emergency. While the productive capacity of industry was increased 60% during the war and more since, practically all of that productive capacity is now at work to meet civilian needs. Large scale defence needs could only be met by diverting men and materials from production for civilian uses and to make the necessary conversion at a time of full employment would require planning and organizing capacity of the highest order.

On this account, the work of your organization and the Industrial Defence Board is of great national importance.

You have recognized this by your participation in this work and your presence here tonight. At your request, and in appreciation of your interest, I propose to give as full and frank a statement of all the main questions relating to industrial organization as I can. You will appreciate some of the difficulties I am in with regard to this. Now let me suggest what can be attempted in the way of overcoming these difficulties. The best course seems to me to put down a number of questions and then give the answers. You can judge how easy this is when you hear the first question.

1. Will there be war?

Answer:

Since the war, the Soviet's manifest intention to carry on the aggressive promotion of communism everywhere by all means short of immediate war has challenged every sensible people who want to stay free to look to their defences. Canada, like the United States, is vitally interested that like-minded nations pool their strengths as the best way to prevent and if necessary to stop aggression.

Obviously, as Western Union becomes stronger, any chance that there might be of the Soviet Union winning an aggressive war will become less. The Soviet Union has pressed her efforts to drive the United States, Britain and France out of Berlin. It is this effort and the willingness to run the risks which it involves that has added tension to the present situation. I don't believe that the Russian people or even the Soviet leaders want war today; but their intransigent attitude has increased its possibility. Even if the situation in Berlin should improve, there will be other points of tension and difficulty until the Russians begin to seek the welfare of their people rather than the extension of their power. War is not inevitable - of course it isn't - but neither is peace inevitable, and until the chances of peace improve, we have got to prepare to defend ourselves.

2. How is defence planning carried on in Canada?

Answer:

The responsibility for overall policy with regard to external relations and defence rests in the Cabinet.

There is a standing committee on Defence which reports to the Cabinet as a whole. The Defence Committee is presided over by the Prime Minister with the Minister of National Defence as Vice-Chairman and the Ministers of Trade and Commerce (that is Munitions and Supply), Finance and External Affairs.

It meets every two or three weeks and deals with major questions of policy and planning. It is attended by the Chiefs of Staff (including the Chairman of the Defence Research Board) and the Under-Secretary of State for External Affairs, the Deputy Minister of Finance and the Secretary of the Cabinet.

The Chiefs of Staff Committee deals with questions of planning and operations. Each year it presents a joint appreciation, plan and implementation programme of what should be done in the next fiscal year.

This planning has in mind long as well as short-range possibilities. It is subject to review throughout the year in the light of the changing situation.

We have other top-level committees to deal with major administrative problems, with personnel matters and with problems of supply and equipment. Within this set-up we have combined many of the functions of the three services and taken action to avoid overlapping and produce co-ordination. Canada has gone further in unification than any country but the organization is subject to constant examination with a view to improvement.

4. What is the role of the Industrial Defence Board?

Answer:

The Board was appointed by the Governor-in-Council on April 20, 1948, "to advise the Government of Canada and the Minister of National Defence on all matters relating to the industrial war potential of Canada; to prepare and keep up to date a plan for industrial production in the event of war; to arrange for such liaison between the naval, military and air forces of Canada, the Canadian Ordnance Association, Canadian Arsenals Limited and other agencies and industries as will

ensure an understanding of defence needs and the active co-operation required to meet such needs; to encourage the standardization of specifications and industrial practices; to advise on the location of industries and on the development, procurement, inspection, storage and distribution of material and equipment and the maintenance of reserve stocks; and to take such action in respect of other matters as may be requested by the Governor-in-Council or the Minister of National Defence."

It will be seen that its functions are advisory, not executive. One main job is to advise on the planning of procurement. That it is a job of the utmost importance is shown by the willingness of leaders of industry to give their help as members of the Board or of its committees.

5. How will procurement be organized?

Answer:

At the close of the war, as the Department of Munitions and Supply was gradually demobilized, its records, its procedures and a good many of its key personnel were formed into the Canadian Commercial Corporation which is a government agency reporting to the Minister of Trade and Commerce. The Canadian Commercial Corporation does all the purchasing for the Navy, Army and Air Force and for several other government departments.

We believe that purchasing is a special function which should be carried out by one agency so that the Services do not compete with each other for goods which are already scarce. Consequently, it is believed that the best way to deal with procurement in the event of an emergency would be through a department of government under a separate minister like the Department of Munitions and Supply and operated in very much the same way. The nucleus for this Department would be in the present Department of Trade and Commerce and the main lines of its organization are being considered.

The advice of the Industrial Defence Board is being sought on this organization. We hope to receive from the I.D.B. lists of "skeleton" or "shadow" personnel needed to operate such a department from the moment when it is decided that it is to get going. I daresay the names of a great number of people in this room would be on those lists. Like you I hope we may never again be faced with an emergency. However, should it re-occur in our time, then I expect many of you will be there and some successor of mine at the end of a third world conflict will be expressing the appreciation which I am now doing for what you did during the Second World War.

6. How will procurement be planned?

Answer:

Planning can't be done in a vacuum and planning which is unrealistic is dangerous. Democracies are more efficient than dictatorships - they produce more goods at lower cost - because the highest efforts of individuals or business are usually voluntary efforts. This doesn't mean at all that there should be no planning but our planning must be designed to tell us -

What are the most urgent needs?

What things we should do first in order to meet those needs?

How and when and by whom those first things should be done?

We decided that what was needed was first of all an indication of the size and composition of the forces that would be employed during the first year after the outbreak of war or after the start of a full all-out effort after a state of emergency has been declared.

We made detailed schedules of what the Navy, the Army and the Air Force would need in the first year; we then saw what we had, made subtractions, and the result was the net requirements we would need. These schedules have been prepared in complete detail down to the number of every article of every type of equipment and spare part. Since the figure has no military significance, I can tell you that the total number of items required for the Army alone will be 171,381,981, and that doesn't include spare parts.

Of these, we have on issue or in mobilization stores 62,045,595. The numbers show strikingly the size of the job but the proportion we have on hand is not in itself significant because we might have (or be short) all the tanks and heavy guns and be short (or have) all the handkerchiefs or shirts. Some of these "phantom" or "shadow" orders have already been delivered and the rest are on the way to our purchasing agent, the Canadian Commercial Corporation.

It will be up to the C.C.C. to "place" these orders in the sense of finding out how, when and by whom this requirement could be obtained if orders were actually placed. Some of them will be for equipment that is regularly manufactured for service or civilian use and about which C.C.C. requires no special information to give us the answers.

On the other articles, C.C.C. will look to the Industrial Defence Board for advice as to how, when and by whom this equipment can be procured. Where the article cannot be produced with existing productive capacity in Canada, it will ask what modifications or substitutes are suggested, what additional productive capacity in machinery or personnel would be needed, what arrangements should be made with the United Kingdom or the United States so as to arrive at sources of supply that will be as certain, as quick and as economical as possible.

I understand that the Industrial Defence Board will take the lists of requirements furnished and discuss them through its own officers and working committees with representative industries. It is a big job but it is the only way we know to plan realistically.

7. Will the government "stockpile" strategic materials in short supply?

Answer:

As you would expect, consideration has been given to the advisability of buying and storing quantities of strategic materials which might be in short supply in the event of a war. In the supply of materials, Canada is one of the most fortunate countries as we have a surplus of a great many strategic materials and are in fact the largest exporters of nickel, asbestos

and base metals. There is a relatively small number of materials of which we would be short. They would probably include chrome, manganese, tin, antimony, quartz crystals and possibly others. There are, I understand, possible Canadian sources of some of these and we might obtain supplies of others even during a war through trading our surpluses of scarce metals. However, we have been assessing the situation regarding these materials and have asked the Industrial Defence Board for advice concerning them. The enquiry on the procurement of requirements will develop information which will be most useful in assessing shortages.

Rubber is another material of crucial importance. While the crown company, Polymer Limited, produces artificial rubber, we should need natural rubber and the Industrial Defence Board is advising on a plan whereby sufficient stores of this could be obtained and turned over by industry.

8. What about steel?

Answer:

The most important single factor governing the extent of Canada's defence preparedness and war potential is steel. Canada, like every other nation, is short of steel. Where during the six years of war, the United States increased her steel production by 70 per cent and the United Kingdom just about held her own, Canada increased her production by 97 per cent, and yet in peacetime our own production is still perhaps 50 per cent short of what we need. To make steel needs coal, iron ore and plant which itself would take a large amount of steel.

With our present day steel shortage we cannot even satisfy all our civilian requirements. The steel needed to build the Arctic ice breaker for the Navy or other weapons of war must subject our supply to even greater strain.

Because of the equipment we have on hand, our peak requirements for steel would not occur during the first year and it would be possible to meet at least the most urgent needs during this period by diversion. By that time, however, other countries might be looking to us for equipment, further increasing the demand for steel.

The situation is such that serious consideration must be given to the question of building additional capacity. With the development of the country we can look forward to if there is no war, it would appear as if a reasonable expansion of steel production would be in the interest of the country for peacetime as well as defence purposes.

9. What about trained manpower requirements?

Answer:

In the modern armed forces more than half the personnel are highly trained specialists or tradesmen. The three Services have schedules of the kinds of skills - the number of additional carpenters, mechanics and wireless operators - that would be required. These are being given to the Department of Labour, which will consider them in conjunction with the ordinary and extraordinary needs of the civilian economy and then seek the advice of the Industrial Defence Board on what can be done to meet this need so as to leave as small a proportion as possible to be trained after the emergency is declared.

Mr. Carmichael has expressed to me his belief that industry can help by developing additional skills and training facilities.

10. What is being done about the standardization of material and component specifications?

Answer:

During the first and second world wars the Canadian forces generally used equipment of British design, some of which we made and some of which was obtained from Britain. Seventy per cent of the vast supplies of materials we made was used by other countries. This Hyde Park Agreement of April 1941 accelerated the movement towards the integration of the industrial and economic potentials of North America. Generally speaking, it is not economical for us to make many items of equipment just for our own needs - the run is too small. We must devote our productive capacity to those things which we can do best and exchange our surpluses for things we need. This implies interchangeability, which in turn requires standardization.

We all know that during the war delays which seemed almost endless were caused by our producing weapons to British design and to British component and material specifications. We had to make major adaptations. A major achievement of Canadian skill was the adoption of British design radar to North American standards.

Altogether, war-won experience taken together with our position as a great manufacturing and trading nation gives Canada a vital interest in standardization. Just as important as the Standardization of the design of weapons, perhaps more important, is the standardization of screw-threads, electric and electronic parts, metal components, and the like.

Apart entirely from defence considerations, standardization of these matters would reduce costs and promote trade. Standardization of this kind has been pressed forward during the last thirty years by the Canadian Standards Association, supported by the Canadian Arsenals Limited, representing the Armed Forces. The main target has been screw-threads. I am glad to say that we are close to an agreement on a standard screw-thread.

Progress is being made with regard to other similar matters. Nothing is being left undone to press forward work in this field.

11. What progress is being made in the standardization of weapons and equipment types?

Answer:

Because of our close relations with Britain and the United States, Canada is vitally interested in standardization of design. There is no obstacle in Canada. But as you know, this is not easy to bring about. Much as one would like to do it, no one is going to scrap serviceable rifles in order to adopt the .300 calibre and the rimless cartridge. In the Canadian Army we have a complete schedule of the weapons in respect of which we are prepared to adopt American designs.

When and how this can be done is being worked at; while it can't be done easily, it can't be done too quickly.

One field for standardization of great and urgent importance is the standardization of types and parts of motor vehicles. At the present time we have something like 25,000 motor vehicles in the armed forces and they are of 350 different series requiring a number of different sets of spare parts. No. 27 Ordnance Depot at London has 118,000 different spare parts for motor vehicles. With the Americans we have been adopting the neutral number system under which we have been giving in addition to the manufacturers' catalogue number, a neutral number to all parts that are common to more than one car. This has resulted in a reduction in the number of parts by more than 17,000. One part - "washers lock spring" is made by 23 prime manufacturers and used by 155 suppliers. Incidentally we found that another part was made by 11 different manufacturers which quoted prices for it varying from \$2.10 to \$12.00 for the same interchangeable part.

Standardization of design is being carried on directly between each service. It has sometimes been possible for a service of one country to make greater progress with its opposite number than two services of the same country are able to make together.

As Canada would only be fighting in close association with either British or American forces, we are therefore taking steps to familiarize our men with the techniques of both. This is not as difficult as it sounds. I am told that a good gunner accustomed to British design equipment can become proficient with American equipment in under a week. More than half our planes and some of our artillery are of American design.

Moreover, we have adopted much the same communication systems, battle procedure and battle orders. We have had so much exchange of personnel and information that there would be little organizational difficulty in working together in tactical co-operation.

A good deal of general equipment such as clothing and shoes and some vehicles and weapons and practically all equipment for use in the Arctic is of Canadian design. If large scale production were needed this would be no doubt accepted by the other co-operating countries, for we make available to them the results of our work there.

12. What is to be done about industrial defence planning with the United States?

Answer:

This was planned in the continuation of joint defence arrangements announced in the Prime Minister's statement on February 12, 1947. Until recently neither country has placed orders for any considerable quantity of defence materials and planning had not advanced to the stage where peacetime defence needs could be accurately foreshadowed. Now that the United States and Canada are simultaneously surveying requirements and procurement capacity, we are taking steps to work out arrangements to plan and carry out the logical utilization of the resources of both countries.

13. What is being done about the development of new weapons and to maintain or increase productive capacity necessary to meet strategic requirements?

Answer:

The aviation industry is probably uppermost in your

minds. As you know, few countries the size of Canada produce any planes at all. The ordinary internal market is too small for economic civilian production and exchange difficulties curtail exports. But in Canada we have great productive capacity and the industry should be kept alive. We have so far been following the policy of assisting to keep together some essential staffs at a number of plants.

Canada's major development project at present is the production of a long-range two-seater jet engine plane by A.V. Roe Limited of Toronto. This project has passed tests and the prototypes are being made. We are putting two years work into one. If this plane is a success it will meet needs not met by any known plane. Our expectation would be to go into production of this plane for ourselves and other countries. Canadair is making North Stars for export. Last year orders for modifications and repairs with the amount spent on development at A.V. Roe Limited totalled \$6,160,000. We also took delivery of North Stars costing \$18,000,000 and spent \$7,300,000 on planes purchased from the United Kingdom and United States.

I may say that during the last few weeks I have signed contract demands for orders to be immediately placed for the overhaul and modification of 209 planes at a cost of \$10,377,000. We shall, of course be buying or building more planes with further developments which I hope to be able to announce shortly.

We shall also be putting forward proposals to begin a programme of ship construction starting with the ice-breaker and followed by escort vessels of a new type.

Further development work may be done in electronics and various types of equipment, particularly related to the Far North. However, we do not propose to duplicate everything being done in other countries. We do propose to do what is necessary to hold up our end in the pool of developed weapons and research by attempting the things we can do best. We are keeping up Polymer Corporation Limited and the five plants of Canadian Arsenal Limited.

Further activities in the field of development are receiving active consideration.

The schedules of requirements will contain some items which would take longer than a year to produce. We shall expect to receive advice from Industrial Defence Board on what should be done regarding these. In different cases jigs and dies, pilot orders or actual production should be commenced in advance of the starting point.

14. What steps have been taken to plan construction?

Answer:

The Armed Services have schedules of additional construction that will be needed for personnel in training or for operations in Canada. This year we have a programme of \$30 million largely for married quarters. This building is being planned where it will be useful in the event of an emergency. Everything we do today has three phases of development in consideration -

- To meet urgent immediate needs;
- To meet an emergency should it arise in the near future;
- To fit into part of the overall long-term plan.

Wartime construction at service camps has for the most part stood up longer than expected but we are already having to engage on large scale operations to replace wartime construction which cannot profitably be maintained. For example, virtually all the American installations, except runways, made by the United States at Churchill during the war will have been replaced by early next year. It will be recalled that Canada paid for all these installations at the end of the war at a purchase price of about \$77 million which all things considered was a price which was fair and in the interest of both countries.

**15. Are these activities keyed in to research?**

**Answer:**

We have put research on the same footing with the Navy, Army and Air Force and the chairman of the Defence Research Board is a member of the Chief of Staffs Committee and has the status of a Chief of Staff, just as the Chiefs of Staffs are members of the Defence Research Board. There are also close relationships with the research activities in the universities and in industry. Here again we are not attempting to cover the whole field but to specialize in activities in which we already have shown our ability to make important contributions and which relate particularly to the needs of our country. Arctic research is being stressed. Incidentally, this year various agencies of the government of Canada are spending in the Arctic Regions about \$22½ million, twenty-five times as much as was spent ten years ago.

Defence Research is not limited today by the amount of money but by the trained personnel available and here too we are training personnel.

**16. How can industry co-operate in industrial defence organization?**

**Answer:**

The following ways are suggested but more will occur to you:

- (1) Through the Industrial Defence Board assist in planning how to meet requirements.
- (2) In considering the location of a new industry, consider dispersion.
- (3) In planning production take into account the possible necessity for expansion and assembly-line procedure to multiply production.
- (4) Anticipate and report probable shortages of skills, machinery or materials.
- (5) Assist in training men to meet greatly expanded needs.
- (6) Make available and where possible encourage the recruitment by the active and reserve forces of personnel suitable for service and facilitate arrangements to permit reserve training.
- (7) Keep informed of changing defence developments and needs and reciprocally keep the defence services informed of changing industrial designs and practices which should result in modification.

I have taken the time to give this outline of some of our plans because you want to know what is being done, and there is of course much more that I could tell. From time to time suggestions as to other courses are made. As you can imagine virtually every suggestion by the press or by various organizations has been considered by National Defence or some other agency of the government long before it was made.

If we did everything for our defence that has been suggested by well-intended people it is perfectly evident that the civilian life of the country would stop, which would neither help the defence of Canada nor the recovery of Britain and Western Europe.

During the last year and a half I have visited practically every establishment and seen most of the men. You have met some of them from the three Services yesterday and today. I know that you will agree that they are serious and capable people, keen on doing an essential job as well as they can. Their effectiveness rests on your support. This public support depends above everything else on good morale. Whatever lies ahead will require clear thinking and stout hearts. Your intelligent and determined assistance provides us not only with material aid but equally important, with understanding support and warm encouragement. The defence of Canada is not just a job for the armed forces but for all the people of Canada.

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