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National Defence; policy on aircraft development; CF-105 programme; improvement of CF-100; procurement of "Sparrow" missile

24. The Minister of National Defence, referring to the programmes for CF-105 aircraft and PS-13 engines authorized at the meeting of March 8th, 1955, said the company undertaking the work - A.V. Roe & Company - had submitted, in September, a revised estimate of costs which brought the total expenditures on the 40 planes and 14 engines to about \$300 million. When the Cabinet Defence Committee was informed of this situation, it had decided that a thorough re appraisal of the whole programme should be carried out. As a result of this study various courses were suggested, but the one which seemed to the officials dealing with the matter as most sound was to improve the existing CF-100, to proceed with the CF-105 programme, and to plan to incorporate into the air defence system surface-to-air guided missiles when they were available.

The Cabinet Defence Committee had considered the re-appraisal reports and the possible courses of action. The committee had expressed concern over the extent of the programme recommended, particularly at the heavy expenditure to be incurred before it had actually been demonstrated that the new plane was a success. In view of this, he had requested that a modified programme for the CF-105 be prepared which would reduce the financial commitments made before the plane could be tested, while leaving freedom for future action and decision.

By delaying for one year the date at which the CF-105 would enter squadron service, only 11 aircraft need be ordered before the first machines had flown, as against the 28 originally proposed. Including the engine programme this would cost \$170.4 million up to April 1st, 1958, less the \$35.5 million already spent. In other words, new authority would be required to spend \$134.9 million. If the programme were cancelled now, there would be cancellation charges of \$17.7 million to be added to the \$35.5 million already spent. Therefore, in authorizing a continuance of the programme on this basis, not more than \$117.2 million extra would be risked over the next three years in proving the soundness of the aircraft.

There would be a serious gap in the Canadian air defence system before the CF-105 would come into squadron use but after the CF-100 became unable to deal with the Russian bomber threat to be expected at that time. It was possible to modify the CF-100 to give it greater altitude, to equip it with "Sparrow" guided missiles, and thus give it a good measure of effectiveness until the CF-105 was available.

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It was proposed to provide four squadrons of this improved all-weather interceptor by introducing these modifications in the aircraft coming off the production line from September 1957 onwards. These modifications could be made in aircraft already produced if this were considered desirable later. The cost, including the "Sparrow" missile, would amount to \$77.4 million spread from the current fiscal year to 1960. One advantage of equipping the CF-100 with the "Sparrow" was that it was planned to arm the CF-105 with the same missile.

The Minister recommended approval of the reduced CF-105 programme, the modifications to the CF-100 and the procurement of the "Sparrow" missile.

Explanatory memoranda were circulated.

(Minister's memoranda, Dec. 5 and 6; Cab Docs. 241- and 242-55).

25. Mr. Campney added that the Cabinet Defence Committee had thought it would be desirable for him to discuss with the U.S. Secretary for Air the possibility of the United States assuming the whole, or part, of the CF-105 programme since they had no comparable plane as advanced in development as this one. Mr. Quarlles and his advisers had a high opinion of the aircraft but felt it would be impossible for the U.S. government to participate in developing it, or to commit themselves to buy it, because of the strong influence of the U.S. aircraft industry in Washington. Only the day before he had spoken again to Mr. Quarlles who had expressed some hope of being able to help, but this could not be relied on as a measure of real and tangible aid for the original plan.

The Minister felt the government could not allow the air defence programme to peter out once the CF-100 had outlived its usefulness. If no plans were made for a successor, there would be a gap in our defences and the morale of the Air Force would be seriously affected. On the other hand, no one knew yet whether the CF-105 would be successful. Nevertheless, this uncertainty did not relieve the government of the responsibility of preparing as effective a defence as possible. If the programme were abandoned now, the government would be faced with explaining why it had spent over \$50 million on the project and then dropped it. By allowing this limited development to proceed, it could be said that, regardless of the results, at least a serious attempt had been made to plan for the years ahead.



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The deterrent to a Russian attack consisted of two elements - the attacking power of the U.S. Strategic Air Command and a reasonable power to inflict losses on enemy aircraft attacking North America. At the moment, the CF-105 appeared to hold out the most promise as a defence against Russian bombers during the period for which it was being planned. If it were not developed in four or five years time, Canada would have to look to other countries for an all-weather fighter.

26. In the course of discussion the following points emerged:

(a) The U.S. was developing a single seater supersonic fighter which would come into operation two years in advance of the CF-105 but, in many respects, it was nowhere near as suitable an aircraft. The U.S. and, to a lesser extent the U.K., were showing considerable interest in the CF-105 but not to the point of participating in its development.

(b) The cost for both the reduced programmes for the CF-105 and the modified CF-100 could be absorbed over the next few years in a defence budget of the present size.

(c) If conditions in the world did not change in the foreseeable future, it could be assumed that the R.C.A.F. would be re-equipped with the CF-105, provided the plane was a success. In effect, the added expenditures of \$117 million would prove the aircraft or, at worst, show a serious attempt had been made to provide the best possible defence for the country.

(d) Abandoning the programme at this stage would be tantamount to an admission that Canada was not capable of providing its share of the common defence or unwilling to do so. This would have a serious effect on N.A.T.O. allies as well as being embarrassing domestically.

(e) The increased cost of aircraft was frightening. The F-86 now cost about \$400,000, the CF-100 just under \$1 million, and the CF-105 was expected to cost between \$2 and \$3 million. The scheme proposed at least reduced possible losses by a substantial amount and would postpone the time at which it might have to be admitted that the cost of adequate air defence was more than Canada could bear.

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(f) It seemed incredible, in the face of such apparent interest and approval in U.S. official circles, that the U.S. could not find a way of taking some small part in the project. Every effort would continue to be made to exploit U.S. interest in the CF-105 programme but it seemed unlikely that much would be done, particularly just before a presidential election.

(g) Defence expenditures would probably be \$1.75 billion again in 1956-57 and about \$1.8 billion for each of the two years following. In other words there would only have been one cut in four years. This might lead to some criticism in the face of cuts in the U.K. and U.S. It was pointed out, on the other hand, that Mr. Quarles now saw no prospect of a cut in the U.S. defence budget in the coming year.

(h) Departmental estimates were now being considered. Statutory increases of \$90 million together with increases for the Colombo Plan, for development in the north, and for vocational training, amounting to about \$28 million, seemed inescapable. This did not include a possible further \$20 million for the Canadian Broadcasting Corporation. Altogether, it would mean that the estimates would be as much as \$120 to \$140 million greater in 1956-57 than in the current fiscal year. To say that the Canadian defence budget for each of the next three years would be \$1.8 billion was looking forward to a bleak future. However, a real effort had been made to reduce the cost of developing the CF-105 and it was very difficult not to go ahead with the programme.

(i) As for the "Sparrow" missile, it would be sensible to proceed with this since the efforts now being devoted to the "Velvet Glove" were not likely to be successful. The "Sparrow" would be made and stockpiled in Canada. Dummies would be used for training.

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27. The Cabinet noted the report of the Minister of National Defence on the development of the CF-105, the improvement of the CF-100, and the procurement of the "Sparrow" missile and agreed,-

(a) that the CF-105 programme approved in March 1955, be revised to provide for the procurement of only 11 aircraft at a total cost of \$170.4 million for both airframe and engines, to be spread over three fiscal years;

(b) that 137 CF-100's be modified to give them greater altitude and provide a missile capability, beginning with the 581st aircraft off the production line, at a cost of \$12.4 million spread over the four fiscal years; and,

(c) that procurement of the "Sparrow" missile to support four squadrons of CF-100's be approved, at a cost of \$65 million to be spread over five fiscal years.

N.A.T.O. Council of Ministers; policy on mutual aid, common infrastructure and priorities within N.A.T.O.

28. The Secretary submitted recommendations of the Panel on Economic Aspects of Defence Questions concerning the attitude which Ministers might wish to take, at the forthcoming N.A.T.O. Ministerial Council meeting, on mutual aid on common infrastructure and on priorities within N.A.T.O.

In outline, the panel felt that mutual aid should be continued but that a more critical appraisal should be made of the types of items, their needs and their destinations. As regards infrastructure, it was recommended that the government agree, in principle, to another programme. One of the main matters to be discussed in Paris would be the problem of reconciling military requirements with the economic and budgetary positions of the individual partners in the alliance. The panel felt that Ministers might acknowledge the need for a general re-assessment of the N.A.T.O. defence programme with a view to determining how best the common defence might be achieved.

Explanatory memoranda had been circulated.

(Memoranda, Panel on Economic Aspects of Defence Questions, Nov. 25, Nov. 29, Dec. 5, 1955 - Cab. Docs. 236,237,238-55).