

Research and Development of Defence Equipment

The next point to mention is the lead time necessary and the risk involved in research and development of modern weapons systems. In giving evidence before a congressional committee this year the United States Secretary of Defence, Mr. McElroy, said:

We are living today in an era of extremely rapid advances, in science and technology. Some of the programmes which appeared to have had great merit only 12 months ago, now, in view of the progress made on more technically-advanced projects, no longer have the same importance or urgency.

We know that having started upon certain projects these have had to be cancelled before they were completed because of changed circumstances. From a study of research and development in the production of modern defensive equipment in the United States and the United Kingdom, and from our own limited experience, it is clear that it takes about nine or ten years to develop and produce modern highly sophisticated defence equipment. The cost of this development and production is becoming astronomical, and there is always the risk that the end product may arrive too late, that new methods have overtaken its development or that the enemy threat has changed considerably.

As an example of the costs and complexity of these development problems it was shown in the evidence produced before the United States Congressional Committee this year that the Bomarc missile has been under development for over eight years and has cost so far \$1.9 billion, while some \$3.7 billion has been expended on the Nike-Ajax and the Nike-Hercules missiles.

It is clear that a country the size of Canada cannot embark unilaterally on any of these long-range, technical and costly development programmes. We must of necessity take advantage of our position in the Western alliance and be able to obtain proven equipment from our partners to meet our limited requirements, thus avoiding the exorbitant cost of development and the risk of failing to produce the weapons in time to meet the threat. Thus, we are pursuing a policy of production sharing, the details of which have already been communicated to the House by the Minister of Defence Production.

Earlier I mentioned the changing threat and expressed some doubts as to whether or not we are in a position to forecast accurately this threat either in time or in character. This dilemma is further exaggerated by the trend of future development, which indicates a much more rapid technological advance in the weapons of offence than in the defensive type. It may be said with some degree of certainty that the weapons available in the next