

*Supply—National Defence*

has the responsibility for initiating new projects, reviewing projects periodically to determine if they should be continued, and recommending the termination of projects that have been overtaken by time, technological advance or parallel development elsewhere.

This group has been formed and has been operating for some months. It has initiated a number of new projects which will be included in next year's estimates; it has consolidated a number of existing projects and recommended the immediate termination of a number of others. The time period for decision making in the field of development has been dramatically reduced, and it appears that the new system will go a long way toward reducing to a minimum the problems inherent in the development field.

An example on the improved flexibility is in respect to the interesting development of a full-scale prototype of an ocean-going hydrofoil vessel.

A great deal of preliminary research has been carried out in respect to the development of hydrofoils and a number of reduced scale models have been built and tested. The considerable effort to date is of little practical value, however, in the absence of complete sea trials of a full-scale ship. We have one under construction now—the hull at Marine Industries in Sorel, Quebec, the foils at de Havilland Aircraft Company, Toronto, and the weapons system at Canadian Westinghouse Company Limited, Hamilton.

**The Deputy Chairman:** I am sorry to interrupt the minister but—

**Some hon. Members:** Carry on.

**The Deputy Chairman:** I gather that the minister has unanimous consent to continue his speech.

**Mr. Hellyer:** Like most development projects, the cost has increased substantially over original estimates.

**An hon. Member:** You said that before.

**Mr. Hellyer:** Not since I sat down, I hope.

**Mr. Churchill:** Page seventeen.

**Mr. Hellyer:** The new estimate is \$36.2 million—a figure that covers the basic ship support services and weapons system. Under the former system of single service management, the increased funds would not have been readily available. The result, almost inevitably, would have been a stretch-out in the program which historically would have resulted in even further increases in costs.

[Mr. Hellyer.]

Even worse, stretched-out development programs often mean the loss of any lead we might have in concepts, thereby reducing foreign sales prospects.

A delayed program would also have made trials so late that we would not have had the information needed when considering options available for a construction program in the first half of the 1970's.

With an integrated headquarters it was possible to divert to the hydrofoil project savings we have made in other areas. As a result, both the ship and the weapons system development are proceeding and we expect that sea trials will begin late this year. It is impossible to say with certainty whether the trials will be successful or not, but all of the data on which the development is based leads us to believe that they will be.

It is, in our opinion, well worth proceeding with the development in any case, for this is an important area of knowledge in which additional data is essential. Equally, it is an important Canadian contribution to the total range of new developments being pursued by ourselves and our allies on a mutually cooperative basis.

The increased emphasis on research and development is in fulfilment of the policy laid down in the White Paper that there would be a modest but consistent increase in these activities. The Defence Research Board has the responsibility not only of providing scientific advice to the minister and to the chief of defence staff, but also of undertaking pure and applied research on behalf of the defence forces. Canada continues to enjoy a well-deserved reputation for extraordinary results in research, particularly in relation to the resources made available for that purpose.

One of the Defence Research Board's most dramatic achievements in 1965 was in the space research field. The successful launch of Alouette II in November in an elliptical orbit was the climax of months and years of painstaking research and development. As of late January it had completed 720 orbits about the earth, travelling 22,800,000 miles, and had executed 8,175 commands while operating six hours a day to produce 54,000 ionograms.

Isis "A", the board's third satellite, is scheduled for launch next year. It will carry ten experiments and is scheduled to move in an elliptical orbit some 300 to 2,600 statute miles above the earth. As the sun's period of activity increases with more frequent and violent solar storms, this space craft should provide most useful data.