

the replacement of 4 per cent of its fleet each year. It is precisely the existence of such a long-term plan which has permitted the construction or refitting of eleven vessels to be fast-tracked as part of the April 1983 budget's Special Recovery Capital Projects program.

Finally, having a number of different types of ships in production simultaneously would provide a hedge against mistaken judgement or radical changes in combat environment. For example, if both submarines and frigates were in production, a technological break-through in ASW might be countered rapidly by slowing or stopping submarine production and speeding frigate construction. If only submarines were being produced, the options would be either to stop everything and set back the time it would take to achieve required force levels, or to continue production and hope that something would happen to restore the submarines' value. Planners make mistakes. The threat is continually changing. Surprises are to be expected. It only makes sense to provide options; to hedge bets.

Needed changes

Given the constraints which exist at present, even the most thorough streamlining of organizational charts would not, on its own, yield major improvements. Policies will have to be reformulated before structural reforms can bear fruit. Consequently:

The sub-committee recommends that the government seek to lengthen its perspective on military procurement, de-emphasize formula funding and favour series production in order to shorten the procurement process and to effect economies.

Even if the money could be found tomorrow to launch five to six new construction projects, however, it is doubtful that the Department of National Defence any longer has the requisite number of skilled personnel to manage them. As Mr. Walsh indicated, "the navy felt they did not have enough in-house capacity" even to design the CPF.⁸ No ship-building for fifteen years means not only that Canada is missing an entire generation of ships; but also that the necessary engineers and project managers have not been developed and retained inside the services.

If the decision were made to encourage development of private rather than military expertise, and not to build up DND's resources in these areas, even private industry would likely find it easier to cope if it were not asked to skip whole generations of military technology. Either way, warship design would likely take a great deal less time, and cost far less, if it did not have to be relearned at intervals of fifteen years or longer. These considerations may be more important now than they have been for several decades given recent evidence that naval architects may be on the verge of a breakthrough in hull design for surface warships which will have to be taken into account by the 1990s. Figure 6 shows the erratic pattern of naval ship construction in Canada since 1950.

⁸ *Ibid*, 8 March, 1983, p. 40:16.