and experience in the Arctic environment so as to be able to meet a threat if it should develop in these waters.

The Subcommittee concludes that it would be desirable, if technically and economically feasible, for Canada to acquire a subsurface *perimeter* surveillance and identification capability to cover the entrance to connecting channels (and possible to cul de sacs) where submarines can operate. To make this perimeter surveillance and identification capability effective, it would have to be backed up by a limited localizing and tracking capability.

The Subcommittee was told that four additional large ice-breakers would be required by the Canadian Coast Guard, to keep open Arctic sea routes, if a decision were taken to ship arctic oil by surface tankers. The Subcommittee understands and agrees that some additional capability is needed only if maritime surface transportation of oil proves to be technically and commercially feasible or if the minerals in the central and eastern arctic become commercially attractive.

11. RECOMMENDED EQUIPMENT AND STRUCTURE OF CANADIAN MARITIME FORCES

In order to develop and maintain the capabilities recommended in Section 10 for the next decade, the Subcommittee envisages a large and continuing re-equipment programme. While some of the recommendations involve the replacement of existing equipment, the Subcommittee urges the Government seriously to consider the possibility of procuring new maritime systems to take account of new technological developments and new requirements, particularly in the Arctic.

In summary the Subcommittee recommends:

(1) the continued maintenance of long range airborne maritime patrol forces to provide considerable surveillance and identification as well as limited localizing, tracking and challenge and/or destruct capabilities;

(2) the maintenance of surface forces, with the emphasis on light and fast general purpose vessels to provide limited surveillance and identification, localizing, tracking and challenge and/or destruct capabilities;

(3) careful consideration of the possibility of developing and deploying in appropriate locations in Arctic regions bottom-based systems providing these are found to be capable of effective surveillance and identification under ice;

(4) no acquisition of nuclear powered submarines, given the high estimated cost.

The Subcommittee was impressed by the evidence of the Department of National Defence that no single platform or detection system could provide the appropriate capabilities given the varied maritime activity and the varied oceanic environment to be covered. In the opinion of the Subcommittee the general types of equipment recommended are of a complementary nature and would provide a limited Canadian capability in all Canadian waters.

In addition the Subcommittee accepted that Canadian maritime forces will continue to require specialized equipment for icebreaking, to service navigation aids, and to provide facilities for research and data collection.