EXECUTIVE SUMMARY

The purpose of this paper is to examine the evolving technologies which will determine the nature of the threat and the prospects for defence in matters relating to continental defence. It also considers the options facing Canada in its response to this changing security environment.

The paper begins with a brief review of the historical pattern of Canadian/US co-operation in air defence, emphasizing the linkage between US policy on air defence and the larger doctrines of strategic deterrence, nuclear war-fighting, and the search for defence against inter-continental ballistic missiles.

It then considers the possible impact on air defence, and Canada's part therein, of various arms control scenarios. The conclusion is that under some of the proposals for deep cuts, as discussed in Geneva and Reykjavik, bombers and cruise missiles would become a more significant part of Soviet strategic forces than they have in the past and are at present, probably encouraging in turn a greater concern with defence against bombers and cruise missiles. Extrapolation from US cruise missile developments, combined with known information about Soviet programmes, suggests that long-range cruise missiles will play an increasing role in the strategic force inventories. Although this is considered to be an important development, the main deployment areas are thought likely to be in the Atlantic and Pacific approaches to North America, and not primarily in the Arctic, as some analysts have suggested.

On the other hand, *transit* through the Canadian Arctic, including the North-West passage, is considered likely to increase, with the danger that the area will be increasingly militarized with or, more likely, without Canadian approval.

The linkage between SDI and air defence is also discussed. The conclusion drawn from the survey of SDI developments is that while there are many possibilities that would involve Canada in US efforts to deploy a strategic defence, almost all these possibilities will remain a matter of speculation until a comprehensive systems design for SDI is completed. On the other hand, the related Air Defence Initiative may produce dramatic changes in air defence in a much shorter time frame, including the possibility that supersonic interceptor missiles, airborne and space-based sensors, and new battle management systems will be feasible.

The study then considers existing Canadian policy on surveillance, and particularly the issues surrounding the North Warning System. It concludes that serious doubts exist about the value of the currently planned location of the North Warning System, particularly if it is viewed as a primary means for the national surveillance of Canadian territory. It suggests that serious thought be given to the proposals for re-assessment of the second phase and for re-location of the line. It also suggests that more consideration be given to a national space-based surveillance sys-