

attack but to ensure that they survive. Therefore, the capability to conduct reliable surveillance must be preserved.

The opinion may be offered that under present circumstances there is no danger of intercontinental attack, and the expense of maintaining surveillance would be unjustified. But the present circumstances may change, and the capability for hideous destruction still exists. Surely the importance of preserving stability and making certain that the hideous destruction never occurs justifies the continuation of the surveillance that has so far required no more than a very modest proportion of the expenses borne for the (successful) prevention of a nuclear war.

Geography has placed Canada in a part of the world in which certain vital parts of the surveillance function must be carried out. But a major part of the cost of conducting the surveillance in Canada has been borne by the United States.

Detection and Tracking of Missiles and Aircraft

Strategic deterrence is provided for Canada by the intercontinental nuclear weapons based in the United States, but the routes along which these weapons and the facilities for their command and control could be threatened lie over the Arctic, over Canada, and along the Atlantic and Pacific coasts of North America. Figure 1 shows two sample ground tracks of ballistic missiles launched from fields in the USSR towards strategic targets in the United States. These would be detected by satellites and by the ground-based Ballistic Early Warning (BMEWS) stations in Alaska, Greenland, and England, unless they had been jammed or destroyed. Also shown are three possible routes for strategic bomber aircraft. These may divert from great circle routes in order to avoid or delay detection by radar, and they may release air-launched cruise missiles to fly the last few thousand kilometres to their targets, using their own built-in guidance. A few illustrative air-launched cruise missile tracks are shown on Figure 1.