Finally, the decision to develop NWS has encouraged the NORAD partners to place manned interceptors at northern bases. In particular, Canada intends to deploy a small number of CF-18s in locations which would, in principle, allow the aircraft operating on data from the NWS, or the DEW line for the time being, to intercept hostile cruise-missile carriers before they launch their missiles. As opposed to the principle, the practice would likely be quite different. Basic calculations of time, radar range and combat radius of the CF-18 suggest that interception would be extremely difficult using either DEW line or NWS technology. It can be reasonably supposed that, without improved capabilities, the present plan to deploy interceptors in the far north is more a gesture of determination than anything else, intended to indicate that the large-scale deployment of Soviet cruise missiles would elicit a defensive response.

There is perhaps a more general observation to be made about the present NORAD arrangement. In the USA the term is really used in two ways: the primary connotation refers to the nerve centre of the American strategic forces, controlling all incoming data and relaying this data to the strategic commands charged with responding to a nuclear attack; only secondarily is it associated with Canada as an agreement between two states operating an integrated command for purposes of air defence. And that distinction, of course, is understandable in the light of the development of NORAD as described above. **NORAD** Future

Will NORAD become the nerve centre of a strategic defence system which involves both spacebased and ground-based defence? And will those systems involve the use of Canadian territory? The answer to the second question, central though it is to Canadian interests, lies some distance in the future. The simple reality is that although a number of weapons designs might plausibly be deployed to better advantage on Canadian territory, the record of SDI research suggests that promising systems rise and fall very quickly. As a conse-



quence, there is not yet a system design for even a partial, let alone a comprehensive, defensive shield, and, even in the most optimistic view, there will not be one for several years yet.

In answer to the first question, however, it is inevitable that the current data and communication links of NORAD would be a part of a strategic defence system. This much is already clear from the American creation of a new Space Command, of which NORAD will be an integral part. The Canadian Government will therefore face some awkward choices. A simple way to avoid or limit participation in an operational strategic defence would be to announce in advance that no components of an anti-ballistic missile system, nuclear or otherwise, would be permitted on Canadian territory. Such a declaration, if made with sufficient determination, would undoubtedly affect American priorities in SDI research in that it would adversely affect the prospects of any defensive systems which required or benefitted from Canadian deployment. To resist such deployments while continuing to participate in NORAD would be somewhat anomalous, however, because any American ABM deployments would increase the threat from Soviet manned

bombers and cruise missiles. This in turn would increase the importance of Canadian territory and Canadian participation in NORAD.

The Soviet Union has begun to deploy long-range cruise missiles on a modernized version of the Bear bomber. A sea-launched

> Map showing coverage of Over The Horizon/ Backscatter (OTH/B) radar sites and the proposed North Warning System.

Stephen Priestley long-range cruise from the same family may also be deployed in ice-capable submarines operating in the Arctic. Does this require a larger commitment to active defence?

In terms of strategic fundamentals, the answer could well be "no". Subsonic missiles fired from the Arctic do not affect the essential issues in strategic force deployments: they are too slow to be credible in a surprise, counterforce strike and they are too far away to deliver a decapitating strike. Increased Soviet capabilities, therefore, do not necessarily change the defence calculation. Psychologically, however, the response may be quite different, and there may be strong pressures, both political and military, to commit resources to the development of cruise missile defences. At this point SDI and air defence are closely linked. Without SDI, air defences will likely stay at a prudent minimum even if the Soviets deploy cruise missiles in larger numbers. With SDI, even in a modest form, defence against the manned bomber and cruise missile becomes essential.

## **Options for Canada**

If it is correct that the major SDI decisions are not likely to be taken for several years, the Government may choose merely to keep a watching brief, moni-

toring and analysing the development of SDI but withholding judgement about its effects on Canada until the systems design options are clarified - a situation not likely until 1988 or even later. On the other hand, the Government might decide to preempt by deciding on the basis of available knowledge what would and would not be acceptable to Canadian participation, recognizing that in the end strict non-participation would be difficult to reconcile with continued Canadian participation in NORAD.

In the nearer term, however, there is another possibility. The immediate need is to develop a coherent Canadian policy on cruise missile deployments. In terms of active defences, this may well involve a decision about how seriously to take Soviet cruise missile deployments.

On the arms control front, cruise missiles figure prominently in the Geneva negotiations. The Soviets propose to ban all cruise missiles with a range over 600 kilometres. The Americans propose to limit long-range ALCMS to 1500 (which would mean about 150 cruise missile-carrying bombers in the Soviet case), and offer no limits on sea-launched cruise missiles. On the face of it. the Soviet proposal is more attractive to Canada than is the American proposal since it would effectively eliminate the threat via the Canadian north. Defining the Canadian interest on this issue, and perhaps pursuing the very difficult verification issues involved in banning sea-launched cruise missiles, may be just as important to Canadians as sending CF-18s to northern bases. Diplomatically and technically this would be a difficult, perhaps politically unpopular task. But to hazard a rough bet, the chances of securing arms control restraints on cruise missile deployments are not less than the chances that the CF-18s will shoot them down if they are ever fired.