

obtaining cheaper versions which use platforms such as the Hercules or the Lockheed P-3 already in service with the Canadian forces. In this respect, however, it may be revealing that, although the Air Defence Master Plan called for the acquisition of 19 E-3A AWACS for the NORAD role, the US Congress has still not funded *dedicated* AWACS for continental defence, and the USAF appears content to draw on all purpose AWACS from Tactical Air Command as the occasion requires. To permit intermittent operations of E-3As in the continental defence order, however, it has equipped its NORAD regional operational control centres (ROCCs) with systems which would allow communications with northern deployed AWACS.

The Canadian choice, therefore, centres on the following issues. First, if USAF operations north of the NWS and over Canadian territory are considered unacceptable politically, or if the proposal to place Canadian personnel aboard is considered blatantly symbolic, then Canada might choose full partnership in northern-based AWACs and accept the cost implications. Second, Canada might choose to add NWS radars on the Arctic islands so that USAF routine AWACS surveillance flights took place only to the north of Canadian territory and over the Arctic Ocean, at which point they could be seen as an independent US initiative having no bearing on the Canadian need for national surveillance.

### C. *Space-based Radar (SBR)*

Although the United States appears committed to the series of ADI technology developments that emphasize airborne and mobile ground-based survivable surveillance systems, its long-term objective continues to be the development of space-based radar and infra-red imaging systems. These systems would be of value both for fleet and air defence, but particularly for the latter. The cost trade-off, as USAF spokesmen have testified to Congress and elsewhere, is with known systems such as OTH-B and, even, the acquisition of increased interceptor capabilities. SBR, in short, will be justifiable as a combination of an improved detection capability and a force multiplier. Without identifying cost figures, it is apparent that large space-based radars capable of imaging objects as small as a cruise missile, and with an incremental capability to respond to stealth technologies, will be very expensive indeed. The Teal Ruby infra-red imaging experiment, which may or may not be able to identify very small objects, but which in any case cannot be seen as a single, stand-alone system because of the inherent limitations of infra-red, is now scheduled for launch in 1988. A ground-based demonstration of SBR is scheduled for 1992, and it would therefore be reasonable to assume that the very earliest time for a space launch would be in the mid-1990s. The number of satellites required for continuous surveillance is also unclear.