STAR WARS & NORAD:

Canada's role in North American defence. By David Cox

The times are changing in continental defence, and in Canada's long-standing partnership with the United States in NORAD.

That much virtually all the witnesses who appeared before the Standing Committee could agree on. But when it came to deciding what changes were taking place and how Canada should respond, the Committee, charged to advise the government on the NORAD renewal, faced a wide range of opinion. The range is from those who believe that Canada will lose influence and "miss out" if it does not find a prominent place for itself in continental defence to those who fear that we will be dragged into Star Wars if the Agreement is renewed.

In important respects these issues go well beyond the renewal of NORAD, but the timeliness of the renewal – coinciding as it does with the public debate in the US and elsewhere about strategic defence – suggests that, for Canadians, NORAD has become quite closely associated with the Strategic Defence Initiative (SDI). It may be useful, therefore, to separate some of the threads in the debate by posing the following questions:

What is NORAD and what has it done in the past?

What are the changes taking place that make its future a matter of considerable debate?

What is its likely role if the US deploys strategic defences?

What options does Canada have?

NORAD Past

When the North American Defence Agreement was first signed in 1958, the principal strategic threat to North America was the Soviet manned bomber. More specifically, if US bomber forces were to be an effective retaliatory force in a deterrent posture, they needed warning of attack sufficient that they could fuel, arm, and take-off before the incoming attack arrived. At the same time, the US Air Force deployed extensive air defences with the intent of defending civilian populations. For both these purposes, the maximum warning could be obtained by placing radars as far to the north as possible. Hence, the Distant Early Warning (DEW) line was strung across northern Canada, with long wings extended out to sea by means of picket ships carrying powerful radars.

Fundamental changes were taking place even while the NORAD Agreement was being negotiated. The rapidly emerging threat was the intercontinental ballistic missile (ICBM), a much more formidable weapon than the manned bomber, and against the ICBM the DEW line was of no value. To give warning of missile attack, the US developed the Ballistic Missile Early Warning System (BMEWS), with warning radars based in Britain and Greenland. Soon thereafter, the United States also developed space-based warning systems, using infrared sensors and photography to identify missile sites and launches.

As these systems developed, the information centre continued to be NORAD, with its headquarters at Colorado Springs. But Canada, officially a full partner in the bilateral command, had no special role to play in the emerging space-based systems or in BMEWS. Conversely, as the threat from manned bombers became less important, so did the need for a large force of active interceptors. Consequently, after 1963, and essentially through to at least 1980 – some might even say to the present – active air defence has been kept to a prudent minimum: protecting sovereignty and guarding against isolated intrusions.

NORAD Present

By the 1980's, a powerful and diverse group of sensors had been assembled by the USA, all of which feed into NORAD. In addition to the space-based detectors of missile launches and BMEWS, large so-called phased array radars are deployed on the coasts of the United States, the primary purpose of which is to detect submarine-launched ballistic missiles (SLBMs). Other radars are sea-based. And against aircraft, the US intends to deploy two long-range radars (over-the-horizon/backscatter or OTH-B) which can detect and track aircraft as far away as 1500 miles.

With all these sensors feeding into NORAD, the Canadian role in detection is, relatively speaking, much diminished. Two cameras which were located in Canada for deep space surveillance are no longer required, and Canada makes no financial contribution to any of the systems described above. However, there is a continuing requirement for an aircraft warning system in the Canadian north, because the OTH-B radars are ineffective in the peculiar atmospheric conditions of the North. The solution, an intermediate one perhaps, is the North Warning System (NWS).

A glance at the map shows the purpose of NWS: to seal off the remaining section in the curtain of early warning radars around the continental United States. NWS is an improvement on the DEW line, which was becoming difficult to maintain and notorious for the "gaps" through which hostile aircraft could, in theory, fly undetected into the heart of the continent. But NWS is probably the least capable of the new systems identified here. Despite the cost – of the $1.3 Billion the US will pay 60% and Canada 40% for the completion of the system in 1992 – NWS will have only limited capabilities against air-and sea-launched cruise missiles. In an actual situation of crisis, airborne warning and control aircraft (AWACS) would need to be deployed from the United States to exercise surveillance and control of the interior space of northern Canada. If technological developments, currently in the research stage, prove successful, it may be that just as the NWS is fully deployed in the early 1990's, the US will be close to the deployment of two space-based systems: space-based radars, and space-based infrared sensors, where the test of both will be their ability to image and track cruise missiles with small radar cross-sections and low heat emissions. If these developments are successful, NWS will become a redundant system, useful only as a hedge against the failure or destruction of its space-based counterparts.