continuing cooperation with the United States remained essential, but there were differing views about the desirability and necessity of an integrated command.

The Minister of National Defence suggested that the only alternative to renewing the agreement was not to renew it. Your Committee took a different view, believing that there is a range of alternatives, involving different levels of cooperation with the United States. Six broad ways in which Canada and the U.S. could organize the air defence of North America were identified by the Committee.

# 1) Total integration of air defence forces

The continental air defence forces of both countries would be fully integrated into a unified combined force operating under a single command in peacetime and in war.

### 2) Integrated Command Structure with Separate Forces

This is the present arrangement under the NORAD agreement. The integrated command has certain forces assigned by both countries. However, the alert stages which control the posture of these forces in times of emergency and their arming with air-to-air nuclear missiles must have the separate approval of each government. Moreover, each government determines what forces it wishes to commit to the joint command. Intelligence, in the form of radar information, is jointly gathered and jointly assessed.

## 3) Coordinated but separate command structures

The two defence departments and defence staffs would consult on steps to be taken in emergency situations affecting both countries. The roles to be performed by the separate national air forces, each under its own national command, could be coordinated in advance for greater efficiency in an emergency and there could be joint exercises. But there would be no joint command. Intelligence could be jointly gathered and, perhaps, assessed. An arrangement like this existed before the NORAD agreement was signed.

#### 4) Joint intelligence gathering and assessment only

The two national air defence forces would operate entirely separately, under strictly national commands, and with no coordination. However, Canada and the U.S. might continue to cooperate in the gathering and assessment of intelligence, using radar and other sensing devices located on Canadian territory.

#### 5) Joint Intelligence Gathering

Cooperation would be restricted to the gathering of intelligence information, which would then be processed nationally. The United States would, in effect, contract with Canada for information-gathering services.

# 6) Completely separate national air defence operations

Canada and the United States would not cooperate in the air defence of North America in any way whatsoever.

Your Committee believes that more than one of these different approaches could reasonably be considered as viable policies for Canada. It thought it to be important in considering the question of future participation in NORAD, to assess the ways in which Canada's interests might be affected, not only by NORAD, but also by the alternatives to it.

Like other countries, Canada naturally desires to maintain the maximum degree of independence consistent with its security. A country enters into a defensive alliance when it believes that it needs the support of other states to gain increased security, and is prepared to sacrifice some degree of independence to this end. It is natural, however, that a state will wish to limit the degree of integration to that which is necessary, and to keep any treaty arrangements made under regular review. It is in this spirit that the Committee has undertaken its review of the NORAD agreement.

### B. Strategic Considerations

In common with its NATO allies, Canada shares an interest in the protection of the strategic deterrent located in the heartland of the United States. The Committee recognizes that NORAD makes a number of vital contributions to that protection, most notably through its facilities for early warning and assessment of an enemy attack.

Serious doubt has been expressed before your Committee, however, concerning another of NORAD's strategic functions, that of providing an active defence against the manned bomber. The need for anti-bomber defences to protect the strategic deterrent was somewhat reduced during the sixties through the hardening of Minuteman silos, the application of the airborne alert concept for the SAC bombers, and the procurement of increasing numbers of Polaris submarines. However, throughout the last decade both the United States and the Soviet Union continued to view the manned bomber as an important weapon. It had several advantages: great flexibility; the possibility of being launched as a warning, without making an irrevocable commitment to war; and a capability for carrying very large weapons and delivering them with unparalleled accuracy.

Although, compared to the missile, the bomber was thus a much cheaper, more flexible and, for a long period, a more accurate, weapons delivery system, a defence against it can be mounted effectively, particularly given the large air space separating the inhabited parts of North America from the Soviet Union. Indeed, it is presumably owing to the effectiveness of the NORAD arrangements that the USSR has not renewed or augmented its long-range bomber force in a decade, and instead has invested very heavily in more costly but largely invulnerable intercontinental missiles and nuclear submarines.

For some years both the United States and the USSR sought to extend the effectiveness of their intercontinental bomber forces by the development of new techniques, such as flying low to avoid the line-of-sight radars, and of new equipment, such as stand-off bombs deliverable hundreds of miles from target. However, the results were clearly not