

In March 1968, an exchange of notes signalled the renewal of the 1958 agreement. However, under the renewal agreement, NORAD was to continue for five years instead of the original agreement's ten years. In addition, either government could terminate the agreement on one year's notice. The 1958 agreement had stipulated that, while NORAD could be "reviewed upon request of either country at any time", the agreement could not be terminated in less than ten years without the concurrence of both countries. Nor is there anything subtle about the eighth sentence of the ten-sentence U.S. note: "It is also agreed by my Government that this Agreement will not involve in any way a Canadian commitment to participate in an active ballistic missile defense."

The rationale for NORAD's renewal agreement was, to quote from the text of the U.S. note, based on "the need for the continued existence in peacetime of an organization, including the weapons, facilities and command structure, which could operate at the outset of hostilities in accordance with a single air defense plan approved in advance by the national authorities of both our countries". It should be noted that the NORAD agreement itself has never defined specific Canadian and U.S. levels of force and facility contributions. Rather, these contributions are a function of continuing negotiations between the two governments.

#### Command operations

The essential import of NORAD is that Canada and the United States have placed their continental air-defence forces under full operational control of one commander-in-chief (an American) and his deputy-commander (a Canadian). The chain of command above the Commander-in-Chief of NORAD is, for Canada, through the Chief of the Defence Staff to the Minister of National Defence to the Prime Minister. For the U.S., the chain of command passes through the Joint Chiefs of Staff to the Secretary of Defense to the President.

NORAD is, in effect, a bilateral, integrated, military organization responsible for defending Canada and the United States and their approaches — an area of 10.5 million square miles — against air attack. For the United States, NORAD-related annual expenditures currently amount to \$1.26 billion; for Canada, they amount to \$136.6 million. At present, NORAD has approximately 300 locations situated throughout the United States and Canada. NORAD's forces involve 85,417 personnel, of whom 11,926 are Canadians. There are currently 250 U.S. military personnel as-

sociated with NORAD on Canadian territory and 210 Canadians on U.S. territory.

In terms of specific Canadian and U.S. NORAD force-level contributions, Canada has three regular fighter squadrons, equipped with 66 CF-101 *Voodoo* aircraft. The United States has 26 air-defence squadrons, consisting of seven regular squadrons of F-106s, and 19 squadrons of the Air National Guard, consisting of F-101s, F-102s, and F-106s. There are 63 *Nike-Hawk* batteries, all of which belong to the U.S. There are 99 long-range radars (LRR), 29 of which are located in Canada and the balance in the U.S. Finally, there are 32 DEW Line stations, of which 21 are located in Canada, seven in Alaska, and four in Greenland.

NORAD consists of three component commands (i.e., commands that make forces available for NORAD operational control): (1) The Canadian Armed Forces Air Defence Command; (2) the U.S. Army Air Defense Command; and (3) the U.S. Air Force Aerospace Defense Command (which provides approximately 60 per cent of NORAD's total personnel and equipment). However, the Commander-in-Chief of the Alaskan Command, which is a separate U.S. unified command, is also responsible to NORAD for the air defence of Alaska. In addition, the U.S. Navy contributes some personnel to the NORAD staff and makes some units available.

The Canadian contribution to NORAD lies in weaponry and surveillance functions. This is, of course, in addition to Canada's granting air-space and refueling rights to U.S. components in the event of an emergency. In addition, Canada makes major contributions in air-surveillance detection and identification. Canada also operates devices supplying data on satellite traffic.

For operational purposes, Canada and the United States are considered as a North American power-grid, which is divided into eight NORAD geographic regions.

#### Complex in Colorado

The focal point of NORAD is the Command Operations Center (COC), the nerve centre of the entire NORAD air system. The COC is located deep in the 9,565-foot Cheyenne Mountain, near Colorado Springs, consisting of a complex of 11 steel buildings covering 4.5 acres of tunnels and evacuated chambers. It is from here that the first warning of an air attack would come and from here that the control of the air battle would be directed. Data are continuously transmitted to the COC from

*Level of forces, facilities remain as a function of negotiations*