operation, new ones having been established at Cambridge Bay, N.W.T.; Moose Jaw and Prince Albert, Sask.; Turner Valley, Alta.; and Cape St. James, B.C. (the latter being operated by the Marine Radio Aids Section). The radiobeacon at Sandspit, B.C., has been placed in continuous operation and the one at Whitehorse, Yukon Territory, decommissioned.

Fan Markers.—These facilities, operating on very high frequencies, provide a pilot with an indication of when he is directly overhead. Normally, they are placed on an airway to inform the pilot when he may safely lose altitude after passing high terrain or to indicate accurately distance from an airport. Eleven of these stations are now in operation, one new station having been commissioned at Campbell Cross, Ont.

Station Location Markers.—These facilities are similar to fan markers except that the signal radiated is such that aircraft may receive the same indication irrespective of the direction of flight. They are installed at the same location as a radio range to enable a pilot to determine when he is exactly over the station, thus obtaining definite indication of position. Station location markers are installed at all radio range sites except at Killaloe, Ont., and Mecatina, Que.

Direction Finding Stations.—A direction finding station for determining the bearing of aircraft from the station was taken over from United States military authorities at Cape Harrison, N'f'ld. This station is capable of obtaining bearings on aircraft transmitting on high and very high radio frequencies.

Instrument Landing Systems.—Instrument Landing Systems provide radio signals which, when received by special radio equipment aboard aircraft, permit pilots to approach airports for landing during periods of very low visibility. An installation normally consists of a localizer transmitter providing lateral guidance to the runway, a glide path transmitter providing slope guidance to the approach end of the runway, two marker transmitters providing distance indication from the runway at approximately four and one-half miles and 3,500 ft., respectively, and a low power radiobeacon (compass locator) to assist in holding procedures and lining up on the localizer course. The localizer and marker transmitters operate on very high frequencies, the glide path on ultra high frequencies, and the compass locators on low and medium frequencies. Twenty-one instrument landing systems are now in operation, new installations having been made at Edmonton, Alta.; London, Ont.; Moncton, N.B.; and Dartmouth and Sydney, N.S. Construction work is continuing on installations at Windsor, Ont., and Torbay and Gander, N'f'ld.

Aeronautical Communication Stations.—In order to assist in providing the required communication between aircraft and the ground, radio stations operating for the most part on high frequencies are located at strategic points across the country and into the Arctic. These stations provide communication to both domestic and international air carriers. There are now 31 of these stations in operation. The communications stations at Gander and Goose Bay, N'f'ld., Moncton, N.B., Montreal, Que., and Vancouver, B.C., form a major contribution on the part of Canada to international aviation. The services provided by these stations may be divided broadly into three classes: (1) communication facilities for meteorological services; (2) communication facilities for the air traffic control services; and (3) facilities for the benefit of the airline operating agencies to provide communication with their aircraft and between their dispatch offices.