

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-three instrument landing systems are now in operation, a new installation having been completed at Gander, Nfld. Construction work is continuing on installations at Patricia Bay and Vancouver, B.C., and at Sydney, N.S. The system under construction to serve Runway 26 at Patricia Bay airport will have a localizer differing from those normally used in that it is highly directive, having only a front course, and is so controlled that clearance indication is shown only out to nine degrees on either side of the centre of the on-course signal. When this system is commissioned, the Patricia Bay radio beacon will become the middle marker compass locator and the fan marker at the same location will become the middle marker.

Aeronautical Communication Stations.—To assist in providing the required communication between aircraft and the ground, 33 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. The international communications stations at Vancouver, B.C., Montreal, Que., Moncton, N.B., and at Goose Bay and Gander, Nfld., form a major contribution on the part of Canada to international aviation. During 1953 two new international stations, at Sydney and Yarmouth, N.S., were placed in operation to provide very high frequency coverage to many international airlines flying the Gander–New York route. The services provided by these international 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 despatch offices.

Since Class 3 is provided solely for the convenience of the airline operating agencies, a system of charges has been introduced to recover from the airlines the cost of providing this portion of the service. The charge is \$13 per aircraft per oceanic crossing. Revenue for the year ended Mar. 31, 1953, was approximately \$195,000.

Very High Frequency Communications.—Owing to the overcrowded conditions of the high frequency portion of the radio spectrum and to the fact that communication in the very high frequency portion of the spectrum is relatively free from atmospheric interference, progress is being made in providing air-ground communications on the latter frequencies. Very high frequency air-ground communication facilities are now provided at 75 range stations and all 21 airport control towers. Very high frequency equipment has been provided also in all control towers and in a large number of airport vehicles to facilitate direction to traffic on the airport surface.

Weather Reporting Stations.—Weather reporting stations are located at strategic points throughout the country from coast to coast and into the Far North. Reports from these stations enable meteorological personnel to forecast weather trends that are of great importance to both domestic and transoceanic flying operations. Some of these stations are located in remote areas with which radio is the only means of communication. At such points, radio stations are established to enable the weather reports to be rapidly forwarded to meteorological offices where the data are correlated. Four such communications stations are located at Dease Lake, B.C., Nitchequon and Indian House Lake, Que., and Coppermine, N.W.T.