flight mechanics program covers research on flight safety and flying stability and control; the development of a crash position indicator for locating crashed aircraft; atmospheric physics; anti-submarine magnetometry; and the avoidance of aircraft collisions.

A growing and highly diversified program of assistance to smaller industries is developing. Most of the work relates to product development, product improvement, or testing.

Radio and Electrical Engineering.—The work of this Division includes engineering problems of interest to Canadian industry and fundamental research in electrical science. The Division co-operates with the Armed Services and associated industries in designing, producing and evaluating new equipment.

Engineering problems include long-distance transmission of high-voltage direct current, radio remote-control of navigational aids, current and potential transformer calibration, high-frequency standards, and the development of electronic medical instruments and operating-room facilities. The Division maintains the best-equipped antenna laboratory in Canada and provides considerable assistance in the development and manufacture of antennas and radomes.

Examples of recent developments by the Division are a radar-data transmission system which provides air traffic controllers with a continuous display of activity at two or more adjacent airports, a simple marine distress beacon operating in the frequency band used by RCAF Search and Rescue craft, and a creative tape recorder much in demand in electronic music studios. A highly mobile counter-mortar radar designed by the Division went into commercial production in 1961.

Fundamental studies are carried out on radio wave propagation, radio astronomy, upper atmosphere research, and electronic and solid-state research. A new radio observatory is being developed in Algonquin Park, where a 33-foot diameter radio telescope is in operation. The Division also provides engineering support for Canada's upper atmosphere rocket-sounding program, and undertakes research in space electronics.

Atlantic Regional Laboratory.—The Atlantic Regional Laboratory is engaged in practical and fundamental studies related to the resources and industries of the Atlantic Provinces. The work follows three general lines: chemical reactions at high temperatures; structures and reactions of naturally occurring organic compounds; and the biochemistry and physiology of fungi, marine algae, mosses, lichens, ferns and higher plants. Examples of specific projects are studies on the collagenous proteins in cod tissues; the loss of ascorbic acid (Vitamin C) in potatoes during storage; and the dietary effects of seaweed components. The work on nutrition is related not only to food industries of the Atlantic Region but to the wider field of public health in general. The high temperature studies are aimed at providing basic information of use in steel-making and related industries. A certain amount of engineering work is also undertaken. Recent studies have centred around the development and use of a semi-continuous dryer for commercially important plant materials.

A recent development of considerable significance is the establishment of a close working relationship with Dalhousie University, Halifax. Under the new arrangement, students acceptable to the University's Faculty of Graduate Studies may now carry out research in the Atlantic Regional Laboratory, directed by Laboratory staff members holding unpaid appointments in the Faculty. The immediate aim of the scheme is to expand the facilities for graduate studies in the Atlantic Region. In the long run, the objective is to help create a strong scientific background conducive to large-scale development by industry.

Prairie Regional Laboratory.—One of the chief aims of the Prairie Regional Laboratory is to develop wider uses for crops grown on the prairies. This is achieved by determining potential uses of crops now in production and by encouraging the production of new crops to meet specific needs. Research is therefore carried out on the properties and