The increased demand on all sides has been met by establishing a western laboratory in Vancouver and by encroaching further on long-range research projects. Previous research has led to a variety of new projects such as a North Sea oil drilling island, and development of a wave-absorbing breakwater design, first used at Baie-Comeau.

The National Aeronautical Establishment (NAE). The aerospace and avionics research programs of Canada have been, historically, an area where the performance of research and development has been heavily weighted in favour of industry, and where government in-house R&D (according to Science Council Special Study No. 12) has been maintained at a level of about 11.5% of the total national aeronautical R&D program on the basis of cost. Of this in-house activity, the NAE has been responsible for about one third of the performance that has been so funded, or 3.5% of the total aeronautical R&D funds. It has used these funds, over the years, to furnish and employ major items of experimental equipment such as wind tunnels, structural test rigs, experimental aircraft and standards as national resources and, in accordance with the explicit requests of the industry, for the use of the industry. The services which the NAE is committed to provide for the aircraft industry have not been abridged by the recent difficulties and corresponding contraction of the aircraft industry. On the other hand, diminishing requirements of the industry have permitted some measure of re-orientation in the work program of the NAE. As a result of its competence and equipment in fluid dynamics, structural theory and analysis, materials technology and dynamics, NAE is well equipped to tackle a variety of problems of current importance both in engineering and industrial areas and in social and regulatory areas. This has allowed the Division to accommodate and achieve a more appropriate compatibility with the visible changes in national objectives, and has led it to vehicle safety, in material technology, in various applications of non-aeronautical aero-dynamics, and in certain ecological problems. In following this course, NAE has answered either to direct industrial requests or to government requests for research in areas that have hitherto been neglected.

The Division of Physics. The principal activities of this Division can be grouped into three related areas: the maintenance of basic physical standards and the calibration of measuring instruments for industries, governments, and universities; general research programs in selected areas of physics; and improvement of the industrial and social climate of Canada by providing advice and information to industries and governments and by providing designs for industrial products.

General research programs are carried out in a number of areas, the largest programs being in space physics, metal physics, plasma physics, photogrammetry and spectroscopy. In these programs the Division endeavours to develop a research capability which will make substantial advances in the understanding of basic principles, and at the same time use the expertise for a variety of other industrial and social purposes.

The efforts of the Division to improve the industrial and social climate of Canada are not located in one particular section of the Division but are interwoven with the general research and standards programs. The greatest contribution of the Division in this area is in the form of advice and information on technical problems. Many staff members serve on industrial and government committees dealing with standards and safety. The staff spends a considerable portion of their time in numerous direct contacts with technical personnel employed by industry and government. The Division operates a school which each year deals with methods of measurement in one or two selected areas of physics at the level required by industry. Finally, considerable effort is devoted to the development of instruments which are suitable for industrial production, and patents on many instruments have generated considerable income over the past few years.

The Prairie Regional Laboratory is engaged in measuring and controlling the influences of genetics, environment and physiological age on the growth and reproduction of micro-organisms, yeasts, algae, plant cells, and higher plants. Fundamental studies provide the necessary groundwork for the practical and applied research in agricultural production and the associated industries. The laboratory has been organized into four sections: microbial physiology and biochemistry, plant biochemistry, chemistry of plant products, and biotechnology.