

When these activities were running smoothly, the Council gradually became convinced that it would be quite impossible to fulfil its obligations to industry unless it were also provided with its own laboratory facilities.

Eight years later, in 1925, the Council began laboratory work on a small scale. Large-scale research began in 1932 when a central laboratory was opened on Sussex Drive in Ottawa. This laboratory housed four divisions, which at that time were called Physics and Engineering, Biology and Agriculture, Chemistry, and Research Information.

During the depression little expansion was possible, but in 1936 the Division of Mechanical Engineering was established and in 1939 a new building site was acquired -- of 130 acres -- on the Montreal Road near Ottawa. (This site now comprises 400 acres).

During these years a nucleus of highly trained specialists in all the main fields of science was built up. When the time came, these men became leaders in directing Canada's war research. The wartime demands were enormous and a ten-fold expansion had to be -- and was -- achieved.

When war broke, the Council had one laboratory in operation. During the war, 21 other laboratories were established, from Halifax to Vancouver. The Council operates temporary laboratories for cold weather work at Lake Louise, Jasper, Edmonton, and Saskatoon. The Council built an explosives experimental establishment at Valcartier that has since become part of a Service organization. For the Atomic Energy Project, the Council equipped large laboratories in Montreal and created a permanent establishment at Chalk River. The Council built sizable radar laboratories near Ottawa, a cold weather station in Winnipeg for testing jet engines, naval research stations on both coasts, and, on the Montreal Road, four miles east of Ottawa, a permanent group of nine buildings and wind tunnels for aeronautical and engineering research.

At the outbreak of the war, practically every laboratory in Canada offered its facilities to the Government. By means of the Council's associate committee mechanism, these people were welded into an informal but highly effective association. Twenty major committees with nearly 100 sub-committees directed and controlled the scientific programmes in as many broad fields of war research. These included committees on naval, army, aviation, and general medical research; and on chemical warfare, explosives, ballistics, aeronautical engineering, aerial photography, soil mechanics, petroleum, synthetic rubber, and substitute fuels. There were also more highly secret committees on atomic energy, invasion problems, and so forth.

Liaison offices were set up in London, Washington and Ottawa for the free flow of information on the secret projects being worked upon in the three countries. Senior members of NRC staff also served on various defence committees to integrate scientific work with service needs, and NRC was named as the research establishment for all three of the Armed Services. In the end, Canada's scientific resources were mobilized as effectively as those in any other country.