Additionally, formal arrangements for information exchange have been established with Australia, the Federal Republic of Germany, Japan, Romania, Spain, Sweden, Switzerland and the Soviet Union.

AECL is represented on numerous international organizations and committees. Its Senior Vice-President, Science, represents Canada on the United Nations Scientific Advisory Committee to the Secretary-General, and is also a member of the International Atomic Energy Agency (IAEA) Scientific Advisory Committee. Canada is a member of the Board of Governors of the IAEA and participates in advisory panels, conferences and symposia arranged by this organization, and also plays an important part in the development of the International Nuclear Information System (INIS), which is providing a world-wide nuclear-information service. Canada is a major participant in the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), as well as other *ad hoc* United Nations committees. AECL also contributes to the activities of the International Commission for Radiological Protection, the International Nuclear Data Committee, the European Nuclear Energy Agency and the International Council of Scientific Unions.

The fourth United Nations Conference on the Peaceful Uses of Atomic Energy, attended by 4,000 delegates and observers from 79 countries, has profound significance. First, it has served to emphasize the extremely rapid rate of progress being made in nuclear science -- it is, after all, less than 40 years since Rutherford and his research team were investigating the structure of the atom and now nuclear-power reactors with outputs of the order of hundreds of millions of watts are operating. Even more significant, the tremendous potential of nuclear power has proved to be a major force in promoting true internationalism; in no other activity has the world seen such a high degree of international co-operation. The necessity for such co-operation is becoming increasingly obvious -- the prospect looms of a world population of 15,000,000,000. Applications of radiation and radioisotopes to agriculture and medicine are beginning to provide some of the answers that will help the world support its millions and provide them with the fundamental amenities, but the major problem remains one of power supply. It has been estimated that a 15,000,000,000 population would require 300,000 gigawatts (1 gigawatt = 10^9 watts) of energy. Canada's presentation at the Geneva Conference indicated that the CANDU reactor system had reached the stage from which it could make a major contribution. Not only is the system advanced in development, but resources of uranium and thorium are more than sufficient for the foreseeable future.

CHRONOLOGY OF NUCLEAR POWER IN CANADA

1942-43 Research scientists from Cavendish Laboratories, England, arrived in Montreal to continue work on atomic bomb project.

1944 Under auspices of National Research Council (NRC), work started on Chalk River Nuclear Laboratories (CRNL).