

Summary

- The National Research Council of Canada (NRC) and Atomic Energy of Canada Limited (AECL)—in partnership with universities and industry—are jointly proposing a new Canadian Neutron Facility (CNF) to support next-generation neutron-based materials research and innovation in Canada for the twenty-first century.
- The CNF is a key component of a revitalized national materials research infrastructure.
- The purpose of the CNF is to provide:
 - an advanced materials research capability to meet the needs of Canadian universities and industry, thus ensuring Canadian competitiveness on many fronts in the global arena
 - an essential testing facility to advance the CANDU power reactor design, thus ensuring the Canadian nuclear industry—with its \$6B annual contribution to the Canadian economy—remains competitive and that CANDU is available to Canada in the future when the need for new, environmentally-sound electricity arises
- Several generations of Canadian materials researchers will be trained on this facility, providing a continuous knowledge-base in Canada, and a centre that will retain Canadian talent.
- All industrialized, and some newly-industrialized countries, have access to neutron beams from research reactors. However, because of the growing international awareness of the critical importance of neutrons for advanced materials development, the global demand is now exceeding supply.
- Germany, Australia, Japan, Egypt, Holland, Thailand and China have identified the requirement for advanced materials research facilities in the twenty-first century and are already constructing, or planning to construct, new research reactors. In addition, all nuclear vendor countries have research reactors to support their commercial programs.
- The Canadian government—in partnership with universities and industry—can lay the foundation for a revitalized materials research infrastructure for Canada by strategic investments in key national facilities.
- With the completion of the CNF—along with the Canadian Light Source Synchrotron Facility in Saskatchewan and the upgrading of TRIUMF in British Columbia—Canada will have a materials research infrastructure that includes major facilities for cutting-edge research and innovation well into the next century.
- Construction of the CNF is planned to begin in 1999, with projected start-up of the reactor in 2005. The total estimated cost for the reactor and program facilities at the Chalk River site is \$388 million.