

CREATING THE FUTURE OF CHALK RIVER

BY ZIN TUN, ON BEHALF OF CREATE (CHALK RIVER EMPLOYEES *AD HOC* TASKFORCE)

With the federal government planning to restructure Atomic Energy of Canada Limited and split off the CANDU reactor business from Chalk River Laboratories (CRL), the future of Canada's main nuclear research infrastructure is uncertain. Furthermore, the 52-year old NRU reactor is showing its age, being shutdown for repairs since May 2009. The NRU reactor is the flagship of CRL, performing three missions simultaneously: (1) It produces neutrons beams for advanced materials research, (2) it is a platform for in-core testing of materials for nuclear R&D, and (3) it is the world's largest producer of medical isotopes. While the National Research Council is responsible for research with neutron beams, AECL is the owner and operator of the reactor and performs the latter two missions.

In response to the restructuring of AECL and to the need for a new, multi-purpose research reactor, the Chalk River Employees Ad hoc Taskforce for a national laboratory (CREATE) was formed in August 2009. CREATE is a grass-roots, non-partisan group of volunteers that includes current and former employees at Chalk River. These volunteers developed a concept for a future Chalk River National Laboratory (CRNL), consulted with CRL staff, and obtained their support. CRNL would include a new multipurpose reactor for research and isotope production. Such a reactor is otherwise known to CAP as the Canadian Neutron Centre proposed by the Canadian Institute of Neutron Scattering (<http://www.cins.ca/CINSplan.html>).

In October 2009, CREATE submitted its report to Natural Resources Canada and Cheryl Gallant, Member of Parliament for Renfrew-Nipissing-Pembroke (Figure 1). The report in both French and English is available at www.futurecrl.ca.

“CREATE has provided Canadians with a vision of what the future of science at Chalk River could be, by evolving



Fig. 1 CREATE presents its report proposing its concept for the future of Chalk River to MP Cheryl Gallant (centre). Left to right: John Hilborn, Gordon Tapp, Zin Tun, and Blair Bromley.

its mission to one of a national laboratory. I intend to make sure the report is widely circulated among my colleagues on Parliament Hill,” Gallant said.

In CREATE's proposed vision, CRNL will be Canada's premier laboratory for nuclear and related sciences (illustrated in Figure 2) and an international centre of excellence. It will be a resource for researchers from across a broad spectrum, from fundamental sciences to industrial applications, rather than being restricted to research and development that is mainly focused on supporting CANDU nuclear power reactors, as is the case today.

The new mission of CRNL will be very outward looking, partnering and impacting at all levels of Canadian society. That outward focus includes several new functions: leading diverse research programs beyond nuclear energy; partnering broadly with universities, industries, and government; commercializing knowledge; providing a training ground for Canada's future generation of research scientists and engineers; and fostering a science and technology culture in Canada. By serving as a unique, major resource for science and industry, CRNL will deliver enduring value for Canada.

While the need for a new facility has long been recognized, the Expert Review Panel on Medical Isotope Production concluded in November “a multi-purpose research reactor represents the best primary option to create a sustainable source of Mo-99, recognizing that the reactor's other missions would also play a role in justify-



Zin Tun, a Principal Research Officer with the NRC's Canadian Neutron Beam Centre at Chalk River, is acting on behalf of the volunteer working group CREATE in submitting this article to *Physics in Canada*. With regard to this article he can be reached through the website at www.futurecrl.ca.

SUMMARY

In response to the restructuring of AECL and to the need for a new, multi-purpose research reactor, the Chalk River Employees Ad hoc Taskforce for a national laboratory (CREATE) was formed in August 2009. This is a summary of this initiative.

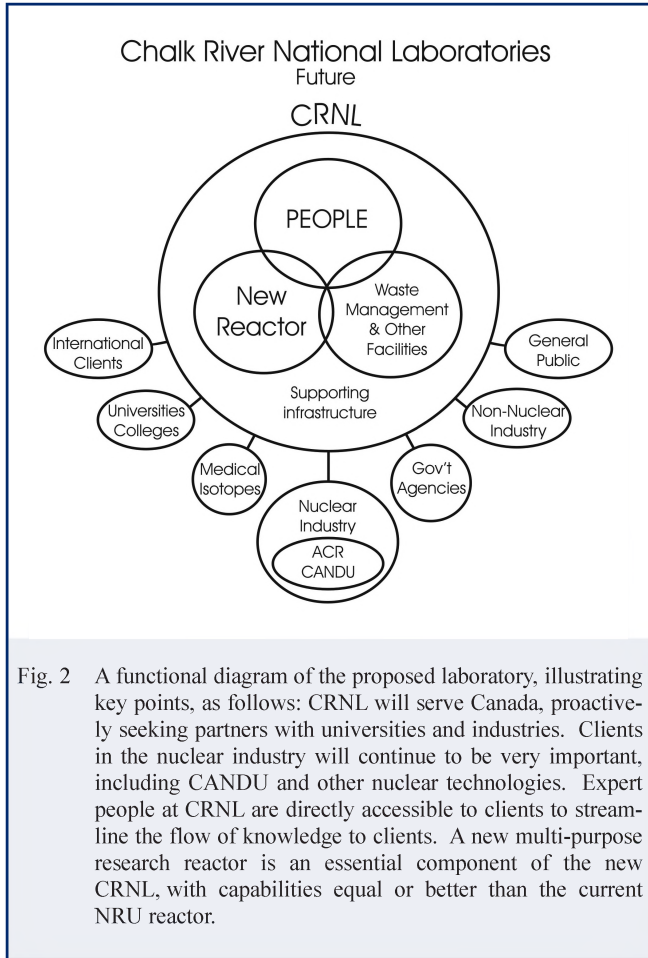


Fig. 2 A functional diagram of the proposed laboratory, illustrating key points, as follows: CRNL will serve Canada, proactively seeking partners with universities and industries. Clients in the nuclear industry will continue to be very important, including CANDU and other nuclear technologies. Expert people at CRNL are directly accessible to clients to streamline the flow of knowledge to clients. A new multi-purpose research reactor is an essential component of the new CRNL, with capabilities equal or better than the current NRU reactor.

ing the costs. With the [NRU] reactor approaching the end of its life cycle, a decision on a new research reactor is needed quickly to minimize any gap between the start-up of a new reactor and the permanent shutdown of the NRU,” and such “a decision is needed within the next year.” This option “has the highest potential for concomitant benefit to Canadians based on the promise of the broad-based research that would be undertaken, and its associated potential for generating intellectual property, job creation and training.”¹

CREATE hopes that the government’s response to that recommendation for a new reactor may be announced in the March budget. An initial investment of about \$10 million for planning steps is needed. In the meantime it is focusing on getting the word out and gathering public support. CREATE is reaching out to the national scientific, nuclear, and medical communities, because it is a truly national issue with international implications.

On February 2, CREATE launched an internet-based petition for all supporters of its vision to show their support on its website (www.futurecrcl.ca). The site sends a customizable letter to the Prime Minister and key federal Ministers and opposition politicians allows individuals to voice their support for such a facility. Participants can also choose to list their name publicly on the site as a supporter. CREATE aims to achieve thousands or even tens of thousands of participants before Natural Resources Canada announces its decision on the future of Chalk River.

1. Report of the Expert Review Panel on Medical Isotope Production. Presented to the Minister of Natural Resources Canada. 30 November 2009. pp. v, xi, 41.