Preserving Canada's Nuclear Heritage

NEWSLETTER

No. 11

August 2023 | Number 11 | Deep River, Ontario

Museum Visits Continue to Increase

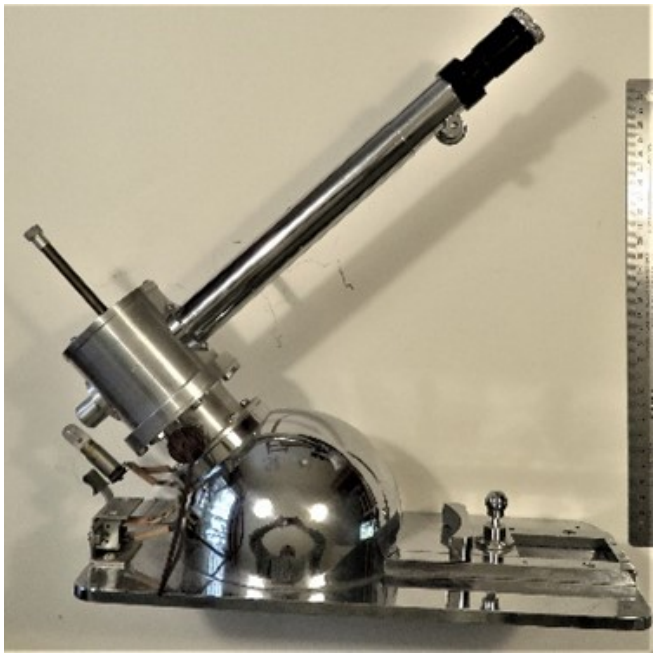
As awareness of the Society and its ever-expanding collection increases in the Canadian and international nuclear communities, the number of visits to our website and museum continues to grow. Opening hours at the physical museum have been limited to Open House events, or visits by appointment. This has largely been due to the shortage of trained volunteer guides to lead tours. We plan to evolve to regular scheduled hours in the near future. Important visitors over the period since the last newsletter include several members of AECL senior management, a visitor from the Canadian Science and Technology Museum, members of Women in Nuclear, and two groups of local high school students. Also, a PhD student from Italy spent several hours using our files for her research. One young man, who lives over a 100 km away, visited the Society website and asked that his 12th birthday gift be a visit to the museum!

Setting the Record Straight on the NRX Accident

It is well known that the cleanup following the NRX accident in 1952 required the efforts of many people. The decreasing health of former US President Jimmy Carter unleased a flood of very inflated stories in the media about his role in the cleanup. Ivan Sememiuk, Science Writer for the Globe & Mail, contacted the Society (several hours of discussion, e-mails and open-source documents); Ivan produced an extended, balanced article on the subject that appeared in the March 20, 2023 issue of the Globe & Mail (and he mentioned the Society!).

Remembering Hugh Carmichael

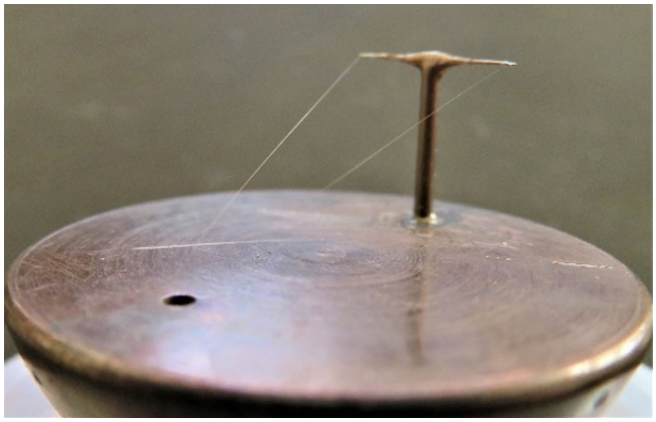
Hugh Carmichael was one of the Cambridge physicists (including Cockcroft and May) who came to Canada as part of the Tube Alloys group. While at Cambridge he had become an expert in the fabrication and use of delicate quartz fibers. At Chalk River he put this expertise to work developing extremely sensitive instruments for a number of applications. He designed a microbalance that was used by B. Harvey at Chalk River in 1951 to measure the half-life of Am-241 by measuring the number of decays from samples along with the actual weight of the samples, measured to an accuracy of 1 % for weights as low as 1 microgram. In addition, he developed a series of electroscopes for accurate radiation measurements during the 1950s based on the change of the deflection of very thin quartz fibers. His designs were put into commercial production by the British firm of Hilger and Watts. The Society recently received several of the electroscopes from the estate of a former Chalk River employee; close examination shows that the 0.6-micrometre diameter quartz fibers are still intact 75 years after manufacture! One of the microbalances exists in the collection of the Canadian Science and Technology Museum.



Type T.Q.Q.B. Electroscope

PO Box 441, Deep River, ON K0J1P0 | nuclearheritage.com | info@nuclearheritage

NuclearHeritage | @NuclearHeritage | /company/nuclear-heritage/



Quartz fibers extending from quartz "T" post of an electroscope

SLOWPOKE Memorabilia

In the recent rush of the nuclear community to Small Modular Reactors (SMRs), one of the pioneering reactors in this region, the SLOWPOKE reactor developed at Chalk River under the leadership of John Hilborn, is often overlooked. Low power (20 kWth) versions of this reactor were installed at many universities and research sites in Canada and internationally. Larger SLOWPOKES were designed up to 10 MWth, and the SLOWPOKE Demonstration Reactor (SDR) was built at Whiteshell Nuclear Research Establishment. Operating costs have led to the closure of a number of these units over the past two decades although the one at the Royal Military College (RMC) at Kingston, Ontario, has recently received a new charge of fuel. The RMC, Ecole Polytechnique and the University of the West Indies SLOWPOKEs will be in operation for the foreseeable future. Over several years, the Society has acquired artifacts from decommissioned SLOWPOKEs. Among these are the control desk of the unit at the University of Alberta, some instrumentation and manuals from the unit at the Saskatchewan Research Council, and the "celebration" collection from the unit at the University of Toronto. The latter consists of six empty bottles of various-quality celebratory wines consumed at the University to toast the start-up or similar important events in the life of the reactor. Each bottle contains a sheet of paper with the signatures of the many attendees at the event. Shades of the start-up of Fermi's Chicago Pile 1 (1942 Dec 2), perhaps, where a bottle of Chianti was consumed courtesy of Eugene Wigner?

Extended Term Memberships and AGM

We have had a number of requests from members to avoid having to renew their membership on an annual basis. The Board will be making a request to the membership at this year's Annual General Meeting (AGM), to approve a change in our Constitution to allow members to purchase a renewal of up to 10 years at the fee in effect at the date of renewal.
The AGM is scheduled for September 06 at the W.B. Lewis Library in Deep River; all members are invited to attend both to advise the Society on which direction they would like to see it go and to hear of the accomplishments over the past year.
In addition, the present Board members invite offers to serve on the Board. Several existing members are on the upper side of the "four-score" age scale and are hoping to pass the torch to new recruits. The task can be a very rewarding way to meet the public and spread the word on the history and importance of the nuclear industry to Canada and the world.

SPCHNI Executive

Morgan Brown	Board Chair, President and Treasurer
Dave Cox	Board Vice-Chair and Vice-President
Jim Ungrin	Secretary
Allan Symons	Membership
Tom Alburger	Cataloguer
Sourena Golesorkhi	Communications
Don Barrington	Director
Bruce Heinmiller	Director