

SLOWPOKE Capability Maintenance

Project/Technical Lead: Justin Spencer

Federal Stakeholder: CNSC

Project Objective:

To maintain CNL's capability in the SLOWPOKE area.

- SLOWPOKE reactor maintenance and some activities involved in decommissioning must be performed by CNSC-certified staff, who are distinct from the reactor operators.
- This project enables expertise to be sustained to ensure continuation of SLOWPOKE reactor operation. The capability to safely decommission the reactors is also underpinned.

Key Points:

- 2017 – 2022 is the most active period for SLOWPOKE reactors since the construction phase decades ago:
 - Decommissioning of University of Alberta (2017) and Saskatchewan Research Council (SRC – 2019)
 - Refuelling of the Royal Military College of Canada (RMCC) reactor (2019-2022)
- Activities support staff training:
 - Decommissioning activities at SRC in August 2019
 - Capability to safely execute refuelling of the RMCC reactor

Key Activities

SLOWPOKE Coordinator:

- Primary contact for SLOWPOKE facilities and the CNSC.
- Responsible for maintaining and developing capabilities, including staff and tooling.

SLOWPOKE Maintenance Team: Decommissioning Training

- Exploitation of the opportunity presented by decommissioning of the SRC facility
- One SLOWPOKE Engineer trainee and one SLOWPOKE technician trainee attended for duration of activities involving critical assembly
- Deep pool of expertise now reduces the probability of challenges with decommissioning of other facilities in the future.

SLOWPOKE Maintenance Team: Reactor Refuelling Training

- Refuelling of the RMCC reactor will provide a rare training opportunity that will be exploited under this project

SLOWPOKE Maintenance Team: Generic Training

- Site visits for shim adjustment training requirements
- Miscellaneous training requirements (initial and ongoing)
- Annual 'mock up' shimming practice

SLOWPOKE Physicist:

- The SLOWPOKE physicist is responsible for items such as: fuel loading and commissioning of reactors and refuelled cores (e.g. RMCC), and advising on the reactivity implications of any core modifications
- A new SLOWPOKE physicist is being trained to replace the current one, who is nearing retirement

SLOWPOKE Neutronic Simulations:

- Detailed simulations of the reactivity worth of beryllium shims help reduce uncertainties during preparations for maintenance activities