



AECL is constructing two MAPLE reactors for MDS Nordion at its Chalk River site. They will be dedicated to the production of medical isotopes.

The CNF reactor assembly is located at the bottom of a 15.6-metre-deep, light-water-filled pool. The reactor systems include the fuel, the process and service systems, the control system, and two independent shut-down systems. The compact light-water-cooled and -moderated core uses low-enriched uranium fuel, consistent with

international nuclear non-proliferation guidelines. This rod-type fuel— U_3Si_2-Al (19.7 wt% U-235)—generates a flux of fast neutrons in the core and a high thermal neutron flux that extends into the surrounding heavy water reflector tank. The maximum unperturbed thermal-neutron flux is 4×10^{18} neutrons·m⁻²·s⁻¹.

The CNF MAPLE Advantage

- state-of-the-art Canadian technology
- high neutron fluxes per unit power
- low fuel costs
- two independent shut-down systems
- passive pool, ensuring reactor cooling
- containment building designed to accommodate extreme events
- designed for ease of operation and maintenance
- modest staffing requirements