

SNC • LAVALIN

Reactor Core Physics

SNC-Lavalin Brings Proven and Reliable Global Experience

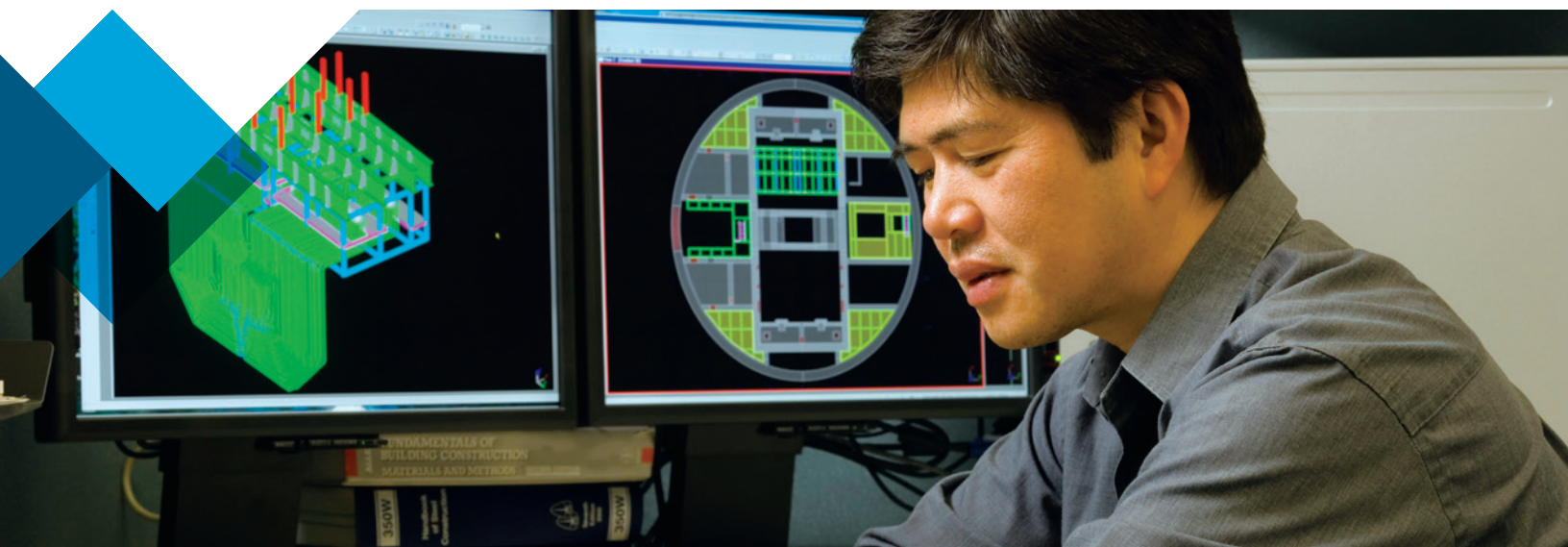
SNC-Lavalin provides high quality nuclear design and nuclear engineering services in the area of reactor core physics. We have extensive experience in the design of new build reactors and in providing services to operating utilities. We provide improved technology to meet existing and emerging utility needs and deliver cost-effective, timely, technology solutions to help maintain high capacity factors.

Our Capabilities

Our reactor physics experts provide comprehensive support during all phases of the nuclear plant life cycle from scope definition through design, construction, commissioning, operations, uprating or other retrofit design changes and implementation.

We have expertise in:

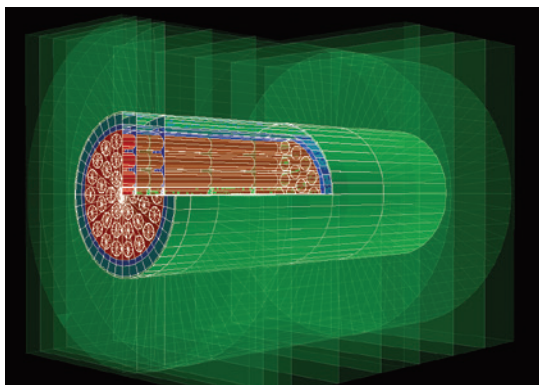
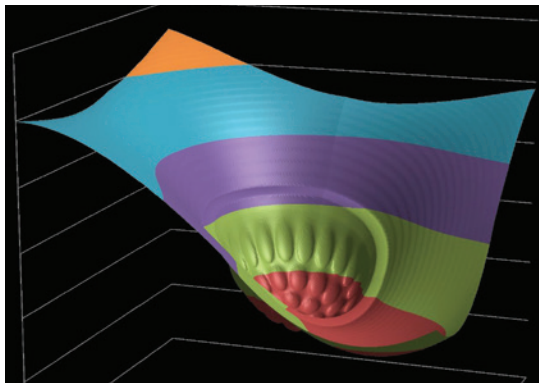
- > Lattice physics and neutron transport theory
- > Reactor physics numerical methods and modelling
- > Lattice parameter and reactivity characteristic assessment
- > Fuel management studies
- > Safety analysis support
- > Device worth and characteristic assessment
- > Neutron Overpower Protection detector and ion chamber response assessment and trip setpoint coverage
- > Xenon and saturated fission product transient simulations
- > Neutronic transient simulations
- > Physics commissioning pre-simulation
- > Provision of essential technical support for experimental and research reactors





Our full service multi-disciplinary BWR and PWR engineering services team includes experts in:

- > PRA
- > Reactor Physics and Safety Analysis
- > Seismic
- > Civil
- > Mechanical, including Process Systems and Chemistry
- > Electrical, Control & Instrumentation



Our physics code experience is grounded in decades of R&D and on-site application. We have developed sophisticated 2D and 3D lattice transport codes (WIMS and DRAGON), and a 3D neutron diffusion code (RFSP). We have experience at all stages of software development, software quality assurance, validation against site measurements and application to nuclear reactors, for both normal operation analysis, reactor design support, and also accident and safety analysis. We also extensively use Monte Carlo transport codes (MCNP and KENO), and have applied these codes as both benchmark tools against our own deterministic codes and as stand-alone models for a range of nuclear reactor studies.



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Please contact us to discuss how our expertise can support your current or upcoming needs.

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www.snclavalin.com/nuclear