SMALL MODULAR REACTORS

We assist vendors of small modular reactors (SMR) with completing their designs to a level where they can be licensed. This includes not only the reactor core, but also balance of plant, civil works, decommissioning plans and other key factors that go into completing a reactor design. We have extensive experience in licensing non-traditional designs in both Canada and the world abroad, including in the United States, the UK and countries with limited experience with nuclear. Our experts put their broad engineering and project expertise to use to find the best solutions for our clients.

Our experts guide our clients through the licensing process and develop detailed engineering designs including:

- Safety, licensing, and security
- Reactor core physics
- Radiation physics and radioactive waste characterization
- Fuel engineering
- Deterministic safety analysis
- Probabilistic safety assessment
- Civil engineering (seismic analysis, flood hazard re-evaluation support)
- Reactor, mechanical, process and equipment engineering
- Computer and display system engineering
- Environmental qualification engineering
- Instrumentation, control and electrical engineering
- Process system engineering

Balance of plant design

- Engineering, procurement and construction management
- Environmental assessment (from Environment and Geoscience in the Infrastructure division)
- Provision of ongoing Operation and Maintenance (O&M) services
- Preparation of project business cases
- Assembly of project financing packages
- Provision of ongoing Engineering and Safety Case Support services
- Outreach to potential equity investors
- Outreach to global nuclear motivated lender community

Working with regulators

As the steward of Canadian CANDU technology, which is licensed in Canada and around the world on four

continents, SNC-Lavalin is uniquely positioned to guide SMR designers through the regulatory process for the best chance of success.

Our team work with our clients to:

- Understand how existing regulatory requirements apply to novel technologies and features in SMR designs
- Develop acceptable approaches to facilitate the adoption of these new technologies as proven engineering practices
- Develop a thorough understanding of the activities that challenge existing licensing and operational models
- Address and deal with government policy issues that affect financing, design reviews and other components

Our Small Modular Reactors fact sheet, provides more information on our SMR services.