AtkinsRéalis



Why choose CANDU®?

Sustainable | Safe | Reliable | Efficient | Flexible | Affordable

AtkinsRéalis is the original equipment manufacturer (OEM) and steward of the Canadian-owned CANDU® technology – a pressurized heavy water nuclear reactor. With over 1000 years of combined operations, CANDU reactors have been used to generate electricity for more than 60 years with operating units in Canada, Romania, Argentina, China and South Korea.

Natural Uranium & Energy Security: CANDU reactors are unique in that they use low cost natural uranium as fuel, permitting countries to maintain fuel independence by avoiding complex geopolitical and security issues associated with enrichment.

Localization of Supply Chain: The robust domestic CANDU supply chain allows Canada to generate billions of dollars of economic growth. Each CANDU unit sold creates thousands of Canadian jobs, tapping into the highly experienced Canadian supply chain of over 250 companies.

Medical Isotopes: CANDU reactors are unique in their ability to co produce a wide variety of medical isotopes for diagnostic imaging, cancer treatment and sterilization of medical supplies. CANDU is the only commercial nuclear reactor technology that produces medical isotopes without interrupting electricity generation.

Sustainable Operations: Online refueling and over 1000 reactor years of maintenance experience helps CANDU reactors achieve up to a 95% capacity factor.

CANDU® Technology Features:

- Improved cost per megawatt hour
- Compatibility with isotope production
- Ease of integration with flexible electricity grids
- Longer operating life
- Sustainable design that minimizes environmental impact
- Easier maintenance including enhanced online and predictive features
- 100% Canadian owned
- Up to a 95% capacity factor
- Up to a 70 year lifespan
- Fuel flexibility can adapt to other fuel types

CANDU® MONARK: Powering The Future

Building on the success of its predecessors, the newest large scale CANDU reactor offers an economically attractive Generation III+ product. It maintains core CANDU elements, with enhanced features - think increased safety, cost-efficiency, extended operating life, shorter construction schedules, and a commitment to sustainable design principles.

Cancer Fighting Isotopes: Supports CANDU technology's legacy of producing isotopes, including 50% of the world's Cobalt 60 supply, essential for sterilizing medical equipment and cancer treatment.

Fuel Flexibility: The only technology that uses natural uranium and can adapt to other fuel types like recycled uranium, thorium, and mixed oxide fuels with minimal adjustments.

Hydrogen Production: Designed to integrate with hydrogen production and storage facilities, using surplus heat to enhance efficiency.

Net Zero Integration: Can eliminate millions of tonnes of CO_2 emissions annually when replacing coal.

World Class Safety: Equipped with advanced defence in depth systems, including two independent and non power dependent shutdown mechanisms.

Enhanced CANDU 6®: A Solution for Medium Sized Applications

The Enhanced CANDU 6 (EC6®) is a Generation III+ 750 MWe class nuclear reactor that is project ready for on-schedule construction and commissioning, with high safety margins and reliable, economic and competitive electricity production and cost.

A Tradition of Continuous Innovation: The EC6 reactor builds on decades of experience delivering CANDU reactor solutions to a global operator base, benefitting from the CANDU experience of proven design, construction and operation.

Ready To Go: The EC6 has passed through all three phases of the Canadian Nuclear Safety Commission's Vendor Design Review process, proving it is ready to deploy.

Advanced Safety & Environmental Features: The EC6 incorporates safety features of globally deployed CANDU reactors that have safely operated for decades. The core design features fuel related safety enhancements and safety performance required of Generation III+ reactors . Post Fukushima safety upgrades are included in the design.

Track Record of International Success: The last seven CANDU reactors have been built on schedule and on budget – the best track record of any nuclear vendor in the world.

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