

# Software Engineering

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## ***Experience and Expertise***

BWXT Nuclear Energy Canada Inc. (BWXT) has over 50 years' experience in the design and manufacture of sophisticated nuclear power station equipment, including fuel handling equipment, on/in-reactor tooling, and refurbishment/maintenance tooling.

BWXT's Software Engineering department is staffed with some of the best minds in the Canadian nuclear industry, with expertise in both software engineering and control systems technology.

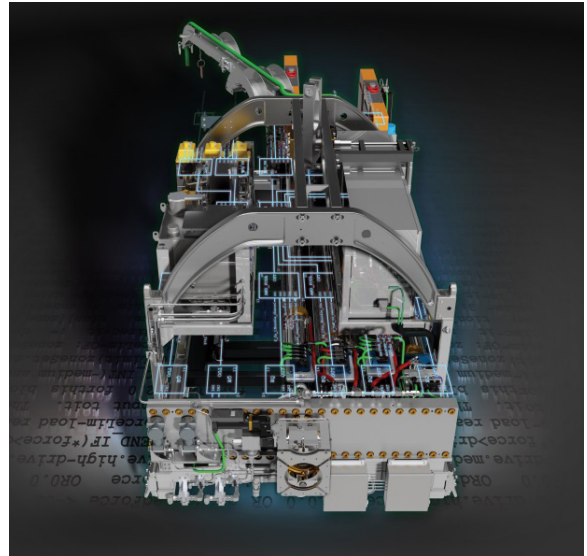
We develop software for modern industrial control systems, legacy minicomputers and desktop computers. Our areas of expertise include:

- Process and motion control
- Interlocks and safety systems
- Human-machine interfaces
- Field simulation
- Computer emulation
- Data acquisition and analysis tools

## ***A History of Success***

BWXT has over 40 years' experience delivering large- and small-scale software systems. Some of our key projects include:

- Original design and ongoing upgrades for Bruce and Darlington Fuel Handling (FH) systems
- Replacement of legacy control systems, including key FH safety systems
- Inspection and maintenance tool delivery systems



- Reactor retube and refurbishment tooling
- Data logging, analysis and automated testing tools
- Emulation of legacy computer hardware

## **Standards to Suit Any Need**

BWXT has created a set of software development processes that ensure the release of fully qualified software to the field. Our processes are suited to the development of Category II, III and uncategorized software, including software that performs nuclear and conventional safety functions.

We have developed software to the following standards, and can quickly leverage our existing processes to respond to additional standards as required for a given project.

- IEC 62138 Category C
- CSA Q396.1.1
- ISO 9001 and 90003
- CE-1002-STD and CE-1003-STD

We regularly audit our software development processes in accordance with CSA Q395-81, and have been externally audited by our customers and CANPAC.

### ***A Complete Lifecycle***

BWXT offers a complete software engineering lifecycle, from requirements definition to independent testing. We use a sophisticated requirements management database to implement traceability from customer requirements to test results. We also use state-of-the-art configuration management tools to track and compare versions of deliverables throughout the lifecycle.

### ***Integrated With Our Customers***

Through many years of experience completing modification packages, BWXT Software Engineering fully understands the engineering change control process. We can work with your processes and systems to take packages from preliminary engineering to closeout.

**NUCLEAR ENERGY**

GOVERNMENT SERVICES

ADVANCED TECHNOLOGIES

BWXT Nuclear Energy Canada Inc. is a subsidiary of BWXT Canada Ltd.(BWXT Canada), headquartered in Cambridge, Ontario. BWXT Canada has over 60 years of expertise and experience in the design, manufacturing, commissioning and service of nuclear power generation equipment. This includes CANDU and Pressurized Water Reactor steam generators, nuclear fuel and fuel components, critical plant components, parts and related plant services. Headquartered in Cambridge, Ontario, BWXT Canada has approximately 850 employees at locations in Cambridge, Peterborough, Toronto and Arnprior, Ontario. BWXT Canada is a subsidiary of BWX Technologies, Inc. (NYSE:BWXT).

BWXT is a leading supplier of nuclear components and fuel to the U.S. government; provides technical, management and site services to support governments in the operation of complex facilities and environmental remediation activities; and supplies precision manufactured components, fuel and services for the commercial nuclear power industry. Learn more at [www.bwxt.com](http://www.bwxt.com).

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