



AUTOMATED SOFTWARE TEST EQUIPMENT DATALOGGER (ASTED)

A Need for Innovation

Recognizing the need for innovative approaches to reduce risk, improve product quality, and contribute to project cost savings and schedule adherence, BWXT Nuclear Energy Canada Inc. (BWXT) has developed a powerful automated testing, logging and analysis tool that can play a key role in any I&C system development project.

A Powerful Tool

BWXT's Automated Software Test Equipment and datalogger (ASTE/d) is a transportable, multi-purpose test and development tool designed to support rigorous formal verification and validation of I&C systems. ASTE/d's flexible architecture supports a variety of useful functions to benefit each phase of the development life cycle.

Perform Low-Cost, High Coverage Testing

Exhaustive test coverage provides the best chance of detecting latent, potentially catastrophic defects; however, the vast number of test cases and field I/O often renders manual testing infeasible and nearly impossible to execute repeatedly without human error.

High-speed testing using ASTE/d's automated scripted testing function reduces test execution time constraints, affording the ability to execute the large set of test cases needed to achieve comprehensive test coverage.



Nuclear Energy Canada Inc.

View Details of Legacy System Operation

When upgrading legacy I&C systems, the detailed information needed to define requirements for the new I&C system may not be available. Often a complete and accurate picture of the interaction between the legacy I&C system and the field equipment can only be gleaned by analyzing the behaviour of the legacy system's field I/O during online operation. ASTE/d is an invaluable tool for supporting such an investigation.

ASTE/d's field data logging function supports high-frequency sampling and recording of a large volume of analog and digital field I/O signals. Using this function, the field I/O signals of an in-service I&C system can be connected to ASTE/d, and data logging can proceed non-intrusively and unattended during normal system operation. Engineers can leverage an extensive suite of offline examination and analysis tools developed by BWXT to evaluate the vast amount of recorded data.

Preview System Operation Before Installation

Any validation that can be performed prior to installation builds confidence in a new system's performance as a fully functional replacement for the legacy system, and reduces the risk of finding errors post installation.

By re-applying data logs previously recorded using the field data logging function, ASTE/d's logged data playback function provides a full-scale dynamic field simulation to support validation activities, at a fraction of the cost of developing a conventional software-in-the-loop simulation.

People Strong

INNOVATION DRIVEN >

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 steam generators, nuclear fuel and fuel components, critical plant components, parts and related plant services. BWXT Canada's sister company, BWXT Medical Ltd. (BWXT Medical) provides its customers, who conduct life-saving medical procedures for patients around the world, the benefit of decades of experience in the development, manufacturing, packaging and delivery of medical isotopes and radiopharmaceuticals. Headquartered in Cambridge, Ontario, BWXT in Canada has approximately 1,400 employees at locations in Cambridge, Dundas, Peterborough, Toronto, Arnprior, Pickering, Port Elgin, Owen Sound, Kanata and Oakville, Ontario and Vancouver, British Columbia. BWXT Canada is a subsidiary of BWX Technologies, Inc. (NYSE: BWXT). Follow us on Twitter @BWXTech and learn more at www.bwxt.com.



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