

BWX Technologies, Inc. Advanced Technologies

Joshua L. Parker Director Business Development February 2024

Company Highlights



BWXT is one of the world's most prolific nuclear technology innovation companies and the sole manufacturer of naval nuclear reactors for U.S. submarines and aircraft carriers.





300+ commercial nuclear steam generators manufactured



1.5 million+ Canada Deuterium Uranium (CANDU) fuel bundles provided

12 U.S. Department of Energy laboratories, environmental cleanup projects and NASA sites

8,000+



fuel elements delivered to U.S. national laboratories, universities and international customers

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Our History

We have been at the forefront of the commercial nuclear power generation and government nuclear industries for decades, achieving an impressive number of firsts along the way.

HISTORY OF INNOVATION 1850s

Our heritage dates to the invention of the water tube boiler by Stephen Wilcox, who later founded The Babcock & Wilcox Company.

NUCLEAR FLEET 1950s

Our nuclear lineage began with the USS Nautilus, the world's first nuclear-powered submarine.

EXPANDING CAPABILITIES 2000s

We completed key acquisitions and a successful spin-off of our power generation business while developing new, advanced technologies.

ADVANCED TECHNOLOGY 2020s

We are taking that spirit coupled with new technology enabling BWXT to field new commercial projects as rapidly as ever before.



BWXT Advanced Technologies



Space Propulsion & power



Thermal propulsion
 Deeper space exploration

Remote Electric & thermal



 Military operations
 Humanitarian assistance



Remote mining
Data centers
Oil & gas sites

Medical Nuclear medicine



Diagnostic imaging Radio therapeutic treatments





Estimated U.S. Energy Consumption in 2021: 97.3 Quads

Lawrence Livermore National Laboratory



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Nuclear, Electricity Generation, and Electrification





Industry: Heat and Power Hungry



Estimated U.S. Energy Consumption in 2021: 97.3 Quads





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BWXT Advanced Nuclear Reactor (BANR)



- 50 MW_{th} per reactor, scalable to site needs
- Flexible power conversion: heat, electricity or co-generation
- High Temperature gas (HTGR) coolant technology
- High density, BWXT-fabricated fuel enables 5+ year refueling cycles
- Passive inherent safety
- Transports within five modules





DoE Advanced Reactor Demonstration Program (ARDP)

- Technology development & architecture
- Enhanced fuel form for longer core life and higher core power
- Advanced sensors for semiautonomous controls
- Commercialization & supply chain development



WEA Project	WEA Project	WEA Project
Phase 1	Phase 2	Phase 3
(under contract)	(future option)	(notional)
 Microreactor design Supply Chain assessment Licensing roadmap 	 Lead unit conceptual design Supply Chain demo & QA evaluation Regulatory Engagement Plan 	 Complete design Site preparation, licensing Build & demonstration

