



Factory to Field:

BWXT Vision for Energy Security and Decarbonization through Microreactor Manufacturing & Deployment

Steve Schilthelm
USNRC Regulatory Information Conference
March 14, 2024

Company Manufacturing 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.



~7,000
highly skilled
employees



\$2.6 billion
USD
in 2024 estimated
revenues



14
major manufacturing
facilities totaling 3.9
million square feet



60+
years manufacturing naval
nuclear components
and reactors



400+
Naval reactor
cores built in
BWXT facilities



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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BWXT's History: 165 Years of Innovation

1856
Stephen Wilcox patented the water tube boiler



1907
Teddy Roosevelt's Great White Fleet powered by B&W boilers

1946
Awarded first U.S. Navy contract for propulsion systems



1953
Designed and fabricated components for world's first nuclear powered submarine



1956
Manufactured components for first commercial nuclear power plant in the U.S.

1962
Designed and furnished commercial nuclear reactor systems for Indian Point

1966
Initiated design and fabrication of nuclear components for Nimitz-class aircraft carriers



1994
Awarded first major DOE site management and operating contract at Idaho National Engineering and Environmental Laboratory

1997
Awarded first prime contract from DOE

2017
Awarded NASA Nuclear Thermal Propulsion Reactor Design contract



2019
Introduced FDA-approved medical isotope for diagnostic imaging to the U.S. market

2020
Restarted TRISO manufacturing for DoD and NASA



2022
Awarded DoD contract to build mobile nuclear reactor prototype (Project Pele)



2023
Awarded contract from G.E. Hitachi for BWRX 300

2023
Awarded DARPA DRACO contract to build nuclear thermal propulsion reactor

NON-NUCLEAR

NUCLEAR

1850

1900

1950

2000

BWXT ERA

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BWXT Advanced Technologies



Space

Propulsion & power



- Thermal propulsion
- Deep space exploration

Terrestrial

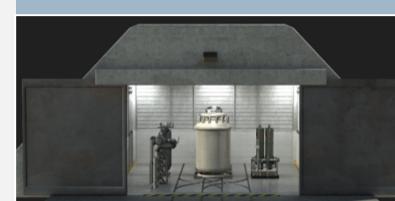
Remote site electric



- Military operations
- Humanitarian assistance

Commercial

Remote thermal & electric



- Remote mining
- Data centers
- Oil & Gas sites

BWXT Microreactor Projects: Market Demand is Emerging



DOE Advanced Reactor Demonstration Program (ARDP)

- ✓ Technology development & reactor design
- ✓ Enhanced fuel form
- ✓ Semi-autonomous controls
- ✓ Commercialization & supply chain development

Geopolitics, economics, and new laws are driving increased and genuine interest in nuclear technologies for heat and power applications



Wyoming Energy Authority (WEA)

WEA Project Phase 1 (under contract)

- Microreactor design
- Supply chain
- Licensing strategy

WEA Project Phase 2 (future option)

- Design maturation
- Supply chain dev.
- Continued regulatory engagements

WEA Project Phase 3 (notional)

- Demonstration

Microreactor Commercialization: Enablers and Challenges



Enablers for commercialization:

- Part 52 Design Approval/Certification and Manufacturing Licenses provide for a single regulatory action that support many projects
- Advanced reactor regulatory framework elements are maturing

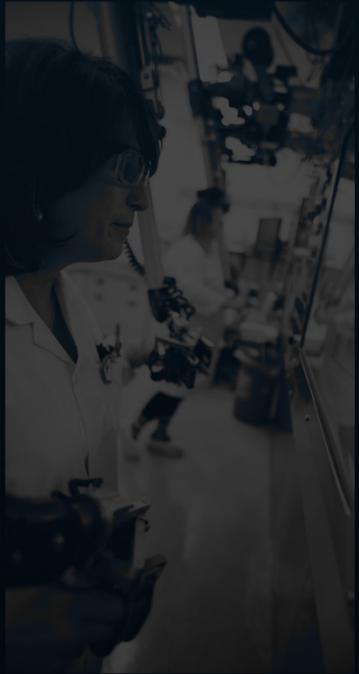
Challenges exist to get to scale:

- Timely and efficient reviews of site-specific information
- New commercial models – industry- versus utility-centric
- Matters of scale must be meaningfully addressed to support broad deployment

From Factory to Field: Rising to Meet the Moment



- **Industrial sector** needs clean and secure heat and power
- **BWXT capabilities** address this demand by leveraging our history:
 - 150 years of manufacturing and decades of reactor experience
 - Strong nuclear manufacturing capability and Cat 1 NRC licenses
 - Pathfinder prototype programs provide opportunities to demonstrate expertise in design development leading to high-volume manufacturing
- **Deployment models** – numerous stakeholders working towards resolution to meet emerging market demand signals



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