BWXT®

NUCLEAR POWERED

RESILIENT, RELIABLE ENERGY

For decades, BWXT has designed, manufactured and delivered nuclear innovations for the United States Navy, Department of War, Department of Energy, research universities and national laboratories. Today, BWXT stands at the forefront of nuclear innovation, providing cutting-edge solutions for defense and national security – including advanced microreactors and fuel for operational and installation energy.

PROJECT PELE: TRANSPORTABLE POWER SYSTEM

In 2022, the Department of Defense awarded BWXT the contract to design and manufacture Project PELE, a resilient energy source capable of swift deployment to the point of need - whether that be a forward military base, satellite ground station or other installations. The PELE reactor and its adjacent systems fit into four 20-foot shipping containers and can be transported by truck, train and C-17 aircraft.

BWXT serves as the lead contractor for Project PELE, collaborating with Northrup Grumman who is providing the control module and Rolls-Royce LibertyWorks who is developing the power conversion and heat exchange modules.

Powerful
Generates 1-2 megawatts of always-on electricity

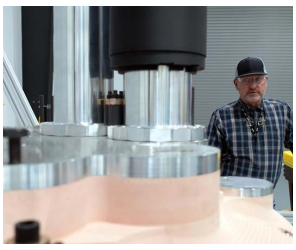
Compact
Fits inside standard 20-foot shipping containers

Agile and Tough
Is light and robust enough to be transported by plane

Delivered Energy	1-2 MW electric
Technology	High Temperature Gas-cooled Reactor
Fuel	HALEU 19.75% U235 enriched TRISO
Design Life	3 years

PROJECT PELE: MARCHING TOWARDS DELIVERY

In July of 2025, fabrication and assembly of the reactor core began at the BWXT Innovation Campus in Lynchburg, Virginia. In November 2025, BWXT shipped the TRISO fuel needed to power the PELE reactor to Idaho National Laboratory (INL). The completed reactor and the other power station components are scheduled to ship to INL during 2027, where INL will fuel the reactor and perform rigorous testing to confirm operational performance in simulated real-world operational conditions.



Executive Order (EO) 14299, "Deploying Advanced Nuclear Reactor Technologies for National Security," signed in May 2025, calls for advanced nuclear technology for both installation and operational energy.

The EO directs the DoW to operate a nuclear reactor, regulated by the U.S. Army, at a domestic military base by September 2028. With manufacturing underway, the PELE reactor is on track to meet this critical national security directive.

FOR EVERY MILITARY MISSION

BANR: FOR INSTALLATION ENERGY

Each BWXT Advanced Nuclear Reactor (BANR) will provide 20 megawatts of dependable electricity – making it an ideal solution for military installation energy. The BANR power plant's flexible design can be deployed on- or off-grid to produce carbon-free electricity, heat or a mix of both depending on the installation's unique energy needs.

BANR is factory-built and modular in order to meet standard road and rail shipping requirements. The design supports multi-unit scalability, rapid deployment and cost-effectiveness by minimizing onsite construction while maximizing safety. It employs mature, high MRL (manufacturing readiness level) high-temperature gas reactor technology, much of which was born from our PELE microreactor prototype design.

Delivered Energy	20 MW electric 60 MW thermal
Technology	High Temperature Gas-cooled Reactor
Fuel	HALEU 19.75% U235 enriched TRISO
Design Life	~4 years (30-year+ operational life

Our BANR reactor design and development is part of the U.S. Department of Energy's Advanced Reactor Demonstration Program (ARDP). The primary objective of the program is to demonstrate the commercial viability of this small, versatile, advanced nuclear reactor to expand access to clean energy, create new jobs and offer significant improvements over today's technology.

FUELING FOR ADVANCED REACTORS

Both BANR and Project Pele are powered by TRi-structural ISOtropic (TRISO) fuel, known for its advanced safety and output efficiency. Each poppyseed-sized uranium kernel is encased in a multi-layered, high-density ceramic shell, capable of withstanding extreme temperatures and corrosion, providing robust safety and reliability.

TRISO fuel particles are a Nuclear Regulatory Commission qualified fuel form that is more resistant to high temperature operations, enabling a safer reactor architecture and improving efficiency. Both BANR and PELE are fueled on site once installation and assembly are complete.

165 YEARS OF INNOVATION

1856
Stephen Wilcox patented the water tube boiler

1953
Designed and fabricated components for the world's first nuclear powered submarine, the USS Nautilus

1959
Manufactured reactor for the NS Savannah, the first nuclear powered merchant ship

2015
Delivered the 400th nuclear core to the US Navy

2017
Awarded NASA Nuclear Thermal Propulsion Reactor Design Contract

2018
Entered the nuclear medicine market

2019
Awarded first Columbia-class contract

2020
Awarded Savannah River Site contract

2022
DoD awarded BWXT contract to build Project Pele microreactor

2023
Designed and built the nuclear reactor engine for DARPA NASA DRACO space project

2025
- Delivered engineering design unit to Marshall Space Center for testing
- Started manufacturing the Pele reactor core assembly
- Delivered 40,000 TRISO fuel pellets to Idaho National Lab for Pele reactor

The Project PELE prototype will deliver baseload power for the Department of War's most mission-critical operations – but it doesn't stop there. The benefits of PELE also extend to the nuclear industry at-large:

- Proves a high assay low enriched uranium (HALEU) transportable nuclear power plant is possible while meeting stringent size, weight and safety constraints
- Demonstrates the regulatory process at a national laboratory (Idaho National Lab)
- Expands the nuclear supply chain
- Proves the flexibility of TRISO fuel in a new reactor design
- Advances High Temperature Gas Reactor (HGTR) technology

At BWX Technologies, Inc. (NYSE: BWXT), we are People Strong, Innovation Driven. A U.S.-based company with approximately 10,000 employees, BWXT is a Fortune 1000 and Defense News Top 100 manufacturing and engineering innovator that provides safe and effective nuclear solutions for global security, clean energy, nuclear medicine, space exploration and environmental restoration. BWXT owns and operates 17 manufacturing facilities globally, and its 14 strategic partnerships support the U.S. and Canadian governments at more than two dozen additional locations. For more information, visit www.bwxt.com. Follow us on LinkedIn, X, Facebook and Instagram.

BWXT
1720 Mount Athos Rd.
Lynchburg, Virginia 24504, USA
Phone: +1 434.316.7500

www.bwxt.com