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TRISO-X Breaks Ground on North America's First Commercial Advanced Nuclear Fuel Facility

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TRISO-X Breaks Ground on North America's First Commercial Advanced Nuclear Fuel Facility

OAK RIDGE, Tennessee, October 13, 2022 – TRISO-X LLC, a wholly owned subsidiary of X-energy, today broke ground and began construction activities on North America's first commercial-scale advanced nuclear fuel facility in Oak Ridge, Tennessee.

The TRISO-X Fuel Fabrication Facility (TF3) will be the genesis of future commercial-scale advanced nuclear energy innovation and deployment, creating more than 400 jobs and attracting an investment of approximately \$300 million. TF3 is set to be commissioned and operational by 2025.

X-energy CEO Clay Sell called the TF3 groundbreaking a major milestone not only for X-energy and the nuclear industry, but also for Oak Ridge, Tennessee, and all of North America.

"Our TRISO-X facility groundbreaking in Oak Ridge is a monumental moment for advanced nuclear energy as we deliver on the critical promise to drive deep decarbonization across the planet," said Sell. "X-energy is thrilled to continue our partnership with the U.S. Department of Energy, East Tennessee, the Oak Ridge community and its best-in-class nuclear workforce."



The vast history and nuclear energy expertise in Oak Ridge made the area an ideal setting for the country's first commercial advanced nuclear fuel facility. "TF3 is well positioned to capitalize on its access to the area's science and technology hubs to meet the growing domestic and global demand for TRISO-based fuel," Sell said. "It's our hope and belief that this groundbreaking and subsequent innovations here will catalyze the energy and industrial sectors to move further into the next generation of nuclear energy."

Tri-structural isotropic (TRISO) particle fuel is considered the most robust nuclear fuel on the planet, according to the U.S. Department of Energy (DOE). Dr. Pete Pappano, President of TRISO-X, explains X-energy manufactures its own proprietary version of TRISO—**TRISO-X** (<https://x-energy.com/fuel/triso-x>)—to ensure supply, improve quality, and reduce costs. TRISO-X is a robust nuclear fuel that can withstand very high temperatures without melting, which is key to its safety.

"The fuel X-energy will produce at this Oak Ridge facility will build a more robust and secure nuclear energy supply chain—supporting the deployment of nuclear energy on a scale never seen before," said Pappano. "With support from the U.S. Department of Energy, we are proud that TRISO-X is leading the commercial development of this safe, innovative technology and that it will be among the first advanced nuclear fuels demonstrated in a grid-scale next-generation reactor."

In 2020, the DOE's Advanced Reactor Demonstration Program (ARDP) selected X-energy's reactor technology to receive initial funding as part of a \$3.2 billion program to develop, build, and demonstrate operational advanced reactors by the end of the decade. The TRISO-X nuclear fuel produced in the Oak Ridge facility will be used in X-energy's Xe-100 (<https://x-energy.com/reactors/xs-100>) high-temperature gas reactors expected to be operational by 2028.

"TRISO-X will be the nation's first commercial scale facility dedicated to fueling reactors that require high-assay low-enriched uranium TRISO particles," said Dr. Kathryn Huff, Assistant Secretary for Nuclear Energy. "It's a job creator and an advanced reactor enabler that will help fuel a transition to a net-zero economy."

X-energy has a history of choosing Oak Ridge as the location for its nuclear innovation. In 2016, X-energy opened a pilot-scale nuclear fuel facility in Oak Ridge to further develop its TRISO-X fuel and support its Xe-100 reactor design. X-energy continues to evolve the proud nuclear tradition in Oak Ridge with the construction of its new TF3 facility and will continue to invest in the community by helping to create sustainable economic opportunities throughout the region.

U.S. Senator Marsha Blackburn underscored the state's role in maintaining energy security, saying, "The work X-energy will do in Oak Ridge will bring the country closer to regaining energy independence while providing a safer, cheaper, and more flexible nuclear fuel option in TRISO-X. I am thrilled they have decided to invest in East Tennessee and bring even more jobs and innovation to the Volunteer State."

U.S. Senator Bill Hagerty echoed the importance of nuclear innovation in Tennessee, adding, "I congratulate TRISO-X on today's groundbreaking for its commercial advanced nuclear reactor fuel fabrication facility.

Today's event demonstrates Tennessee's business-friendly environment, highly skilled workforce, and continued leadership in next-generation nuclear technology."

"Today's groundbreaking by X-energy is further proof that Oak Ridge is the center of America's revived domestic nuclear energy industry. I am proud that X-energy has chosen Oak Ridge to build its new TRISO manufacturing facility and invest in Oak Ridge's outstanding workforce," added U.S. Representative Chuck Fleischmann.



Video: TRISO-X Fuel Fabrication Facility

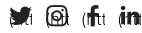
About TRISO-X

TRISO-X is a wholly owned subsidiary of **X-energy**, a nuclear energy innovation company focused on the development of next-generation, zero-carbon nuclear energy. Based in Rockville, Maryland, X-energy designs and deploys advanced nuclear reactors and manufactures its proprietary TRISO-X fuel to improve the delivery of safe, affordable energy to people around the world. To learn more, visit www.x-energy.com (<http://www.x-energy.com>) and [www.triso-x.com](https://triso-x.com/) (<https://triso-x.com/>).

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