

Kairos Power Begins Nuclear Safety-Related Construction of Hermes Low-Power Demonstration Reactor

OAK RIDGE, TN, UNITED STATES, May 8, 2025 /EINPresswire.com/ -- Kairos Power has completed the first installation of nuclear safety-related concrete for the Hermes Low-Power Demonstration Reactor, marking the start of “nuclear construction” on the project in Oak Ridge, Tennessee. Hermes is a scaled demonstration of Kairos Power’s fluoride salt-cooled high-temperature reactor technology and is the first advanced nuclear reactor to receive a [construction permit](#) from the U.S. Nuclear Regulatory Commission (NRC).



Kairos Power first broke ground at the Hermes site in [July 2024](#) and completed excavation in October. Safety-related construction activities, which are subject to oversight by the NRC and can only be performed with a construction permit, started on May 1 with a focus on the building’s foundation. To ensure structural soundness, Hermes will have 51 six-foot-diameter drilled piers extending approximately 40 feet below grade to anchor the building to bedrock.

The first safety-related concrete pour was the culmination of several months of preparation. Two earlier projects at the Oak Ridge site served as proving grounds to test the drilled pier installation process and refine Kairos Power’s nuclear quality assurance program.

The construction team, led by Barnard Construction Company, completed a full-scale test pier in November, known as “Pier 52,” to demonstrate the process from beginning to end before drilling 70 piers for Kairos Power’s non-nuclear Engineering Test Unit (ETU 3.0) facility over four months. The team became highly proficient, installing as many as six piers in a single day using quality control checklists similar to those that will be used for Hermes.

“The first safety-related concrete pour for a U.S. advanced reactor under an NRC construction

permit is a major milestone and a significant accomplishment for the Kairos Power team and our construction partners,” said Kairos Power CEO and co-founder Mike Laufer. “This achievement reflects the value of our iterative development process to meet the necessary nuclear quality standards and provide crucial real cost information that gives confidence to our customers. It is a testament to the hard work of our dedicated team and represents an enormous amount of learning and progress.”

“The Hermes project team continues to lead the industry as we forge a new path in advanced reactor construction,” said Kairos Power Chief Technology Officer and co-founder Edward Blandford. “Working with our partners and in close communication with the NRC, we are committed to maintaining the highest standards of quality and safety to ensure the success of this project.”

The Hermes reactor will leverage proven technologies that originated in Oak Ridge—a novel combination of TRISO coated particle fuel and ‘Flibe’ molten fluoride salt coolant, which yields robust inherent safety while simplifying the reactor’s design.

Hermes is supported by risk reduction funding from the U.S. Department of Energy’s [Advanced Reactor Demonstration Program](#). Kairos Power is building the demonstration reactor as part of its iterative approach to mitigating technology, licensing, supply chain, and construction risks for the commercial fleet.

About Kairos Power

Kairos Power is a mission-driven nuclear technology, engineering, and manufacturing company singularly focused on commercializing the fluoride salt-cooled, high-temperature reactor (KP-FHR) – a clean energy solution that can be deployed with robust safety at an affordable cost to enable deep decarbonization. Founded in 2016, the company is unique in applying a rapid iterative development approach and vertical integration strategy to bring advanced reactor technology to market. In 2025, Kairos Power commenced safety-related construction of the Hermes demonstration reactor – the first non-water-cooled reactor approved for construction in the U.S. in over 50 years. Kairos Power’s mission is to enable the world’s transition to clean energy with the ultimate goal of dramatically improving people’s quality of life while protecting the environment. Learn more at kairospower.com.

Contact:

Ashley Lewis

Corporate Communications

media@kairospower.com

(510) 775-1685

Ashley Lewis

Kairos Power
[email us here](#)

This press release can be viewed online at: <https://www.einpresswire.com/article/810689750>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2025 Newsmatics Inc. All Right Reserved.