October 9, 2025

Lightbridge Completes Loading of Capsules Containing Lightbridge Fuel Material Samples into an Experiment Assembly for Irradiation Testing in the Advanced Test Reactor

RESTON, Va., Oct. 09, 2025 (GLOBE NEWSWIRE) -- Lightbridge Corporation (Nasdaq: LTBR), a leader in advanced nuclear fuel technology, today announced the successful completion of the loading of capsules containing Lightbridge Fuel material samples comprised of enriched uranium-zirconium alloy, recently manufactured at Idaho National Laboratory (INL), into an experiment assembly. The experiment assembly is now ready for insertion into the Advanced Test Reactor (ATR) for irradiation testing which is expected to begin later this year.

Key highlights of this achievement include:

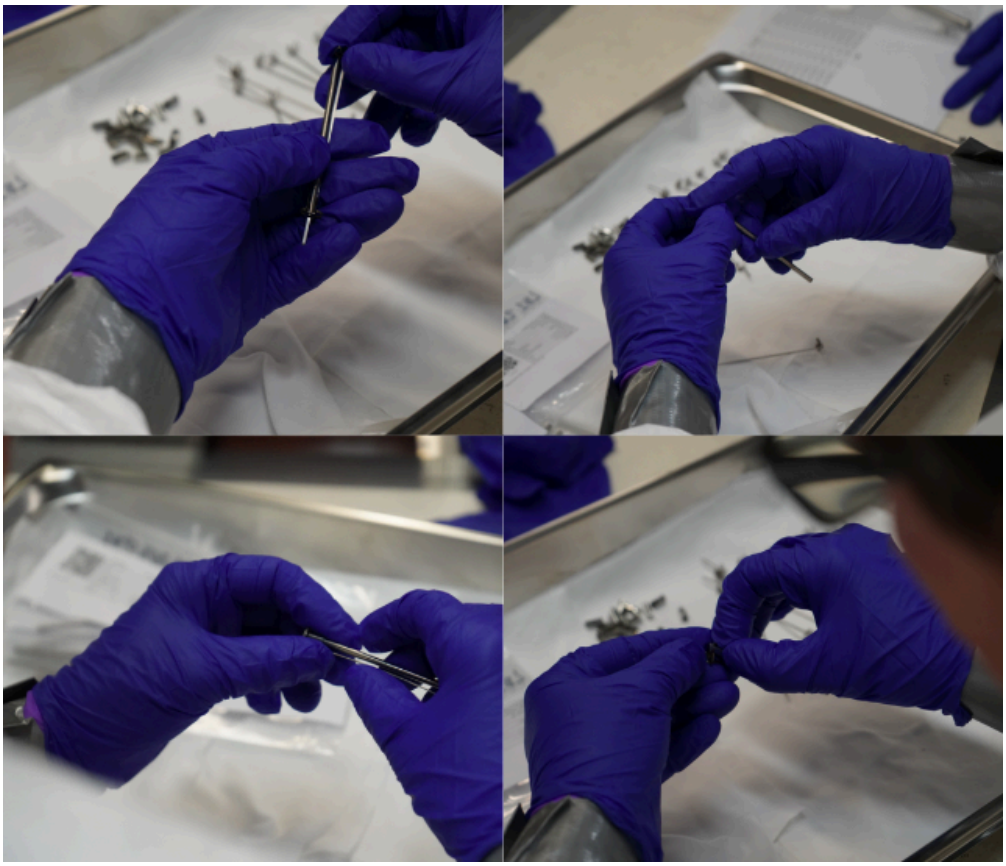
- **Completion of Loading of Capsules into an Experiment Assembly:** Lightbridge and INL teams successfully completed the loading of capsules into an experiment assembly containing enriched uranium-zirconium alloy samples of Lightbridge fuel material produced at INL's Materials and Fuels Complex.
- **Precision Manufacturing & Assembly Process:** The enriched uranium-zirconium alloy coupon samples, matching the composition intended for Lightbridge's future commercial Lightbridge Fuel™ product, were meticulously manufactured and loaded into capsules under stringent quality control and process validation protocols.
- **Upcoming Irradiation Testing in ATR:** The experiment assembly will be placed into a designated core position and subjected to irradiation testing at ATR in accordance with the existing Cooperative Research and Development Agreement (CRADA) between Lightbridge and INL.
- **Supporting Regulatory & Commercialization Efforts:** The planned irradiation testing program, combined with post-irradiation examination activities to be outlined in a forthcoming Project Task Statement, will yield critical performance data needed to inform Lightbridge's planned regulatory licensing activities and advance its commercial deployment efforts.

"We are proud to collaborate with Lightbridge on the assembly of this irradiation experiment," said **Jess Gehin, Associate Laboratory Director for Nuclear Science & Technology** at Idaho National Laboratory. "This is an important step in testing and validating the performance of Lightbridge's advanced fuel in a test reactor environment."

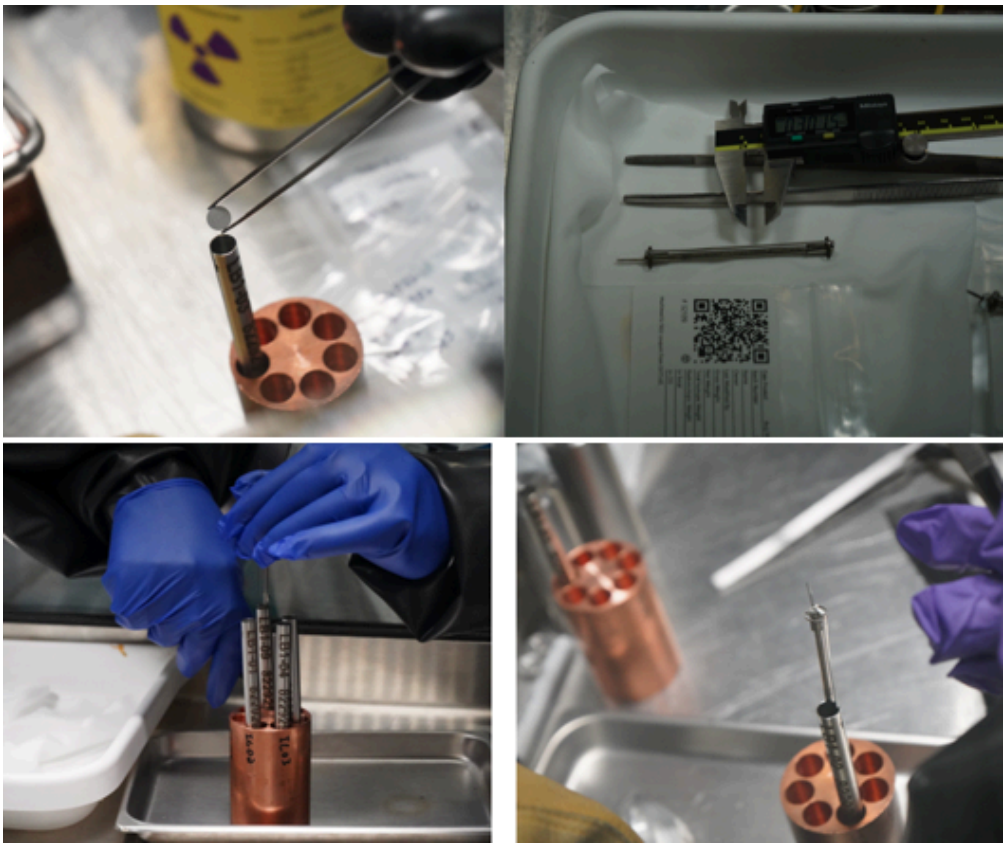
"We are pleased to complete this final step in preparation of the experiment assembly for irradiation testing," said **Dr. Scott Holcombe, Vice President of Engineering,** at

Lightbridge. “This is a pivotal milestone for Lightbridge Fuel development. This achievement brings us closer to obtaining the rigorous irradiation testing data required for regulatory approval and eventual commercialization of Lightbridge Fuel.”

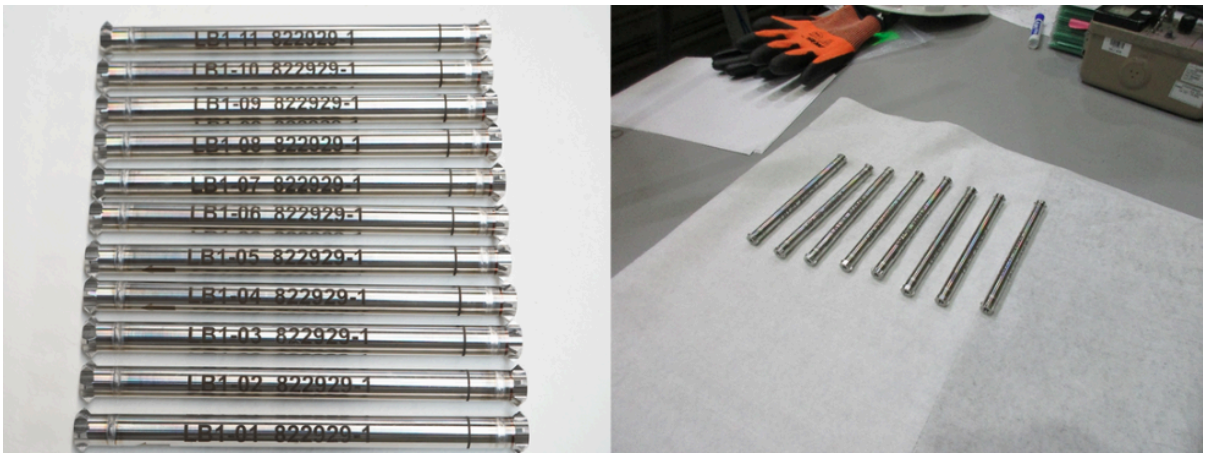
Click here to view photos from Idaho National Laboratory of Lightbridge fuel samples being loaded in the capsules.



Loading fuel into rodlet holders



Loading fuel into the inner capsule



Capsules containing Lightbridge Fuel material samples before loading into an experimental assembly.

Members of the Lightbridge and INL teams are observing the capsule loading into an experimental assembly.

One of the capsules is being handed to the operator for loading into an experimental assembly.

Loading of one of the capsules into an experimental assembly in the ATR canal.

Observing the loading of the capsules via the video monitoring system.

About Idaho National Laboratory
Battelle Energy Alliance manages INL for the U.S. Department of Energy's Office of Nuclear Energy. INL is the nation's center for nuclear energy research and development, and also performs research in each of DOE's strategic goal areas: energy, national security, science

and the environment. For more information, visit www.inl.gov. Follow us on social media: Facebook, Instagram, LinkedIn and X.

About Lightbridge Corporation
Lightbridge Corporation (NASDAQ: LTBR) is focused on developing advanced nuclear fuel technology essential for delivering abundant, zero-emission, clean energy and providing energy security to the world. The Company is developing Lightbridge Fuel™, a proprietary next-generation nuclear fuel technology for existing light water reactors and pressurized heavy water reactors, significantly enhancing reactor safety, economics, and proliferation resistance. The Company is also developing Lightbridge Fuel for new small modular reactors (SMRs) to bring the same benefits plus load-following with renewables on a zero-carbon electric grid.

Lightbridge has entered into two long-term framework agreements with Battelle Energy Alliance LLC, the United States Department of Energy's operating contractor for Idaho National Laboratory, the United States' lead nuclear energy research and development laboratory. DOE's Gateway for Accelerated Innovation in Nuclear program has twice awarded Lightbridge to support the development of Lightbridge Fuel over the past several years. Lightbridge is participating in two university-led studies through the DOE Nuclear Energy University Program at Massachusetts Institute of Technology and Texas A&M University. An extensive worldwide patent portfolio backs Lightbridge's innovative fuel technology. Lightbridge is included in the Russell Microcap® Index. For more information, please visit www.ltbridge.com.

To receive Lightbridge Corporation updates via e-mail, subscribe at https://www.ltbridge.com/investors/news-events/email-alerts

Lightbridge is on YouTube. Subscribe to access past demonstrations, interviews, and other video content at https://www.youtube.com/@lightbridgecorporation

Lightbridge is on X (formerly Twitter). Sign up to follow @LightbridgeCorp at http://twitter.com/lightbridgecorp.

Forward Looking Statements
With the exception of historical matters, the matters discussed herein are forward-looking statements. These statements are based on current expectations on the date of this news release and involve a number of risks and uncertainties that may cause actual results to differ significantly from such estimates. The risks include, but are not limited to: Lightbridge's ability to commercialize its nuclear fuel technology; the degree of market adoption of Lightbridge's product and service offerings; Lightbridge's ability to fund general corporate overhead and outside research and development costs; market competition; our ability to attract and retain qualified employees; dependence on strategic partners; demand for fuel for nuclear reactors; Lightbridge's ability to manage its business effectively in a rapidly evolving market; the availability of nuclear test reactors and the risks associated with unexpected changes in Lightbridge's fuel development timeline; the increased costs associated with metallization of Lightbridge's nuclear fuel; public perception of nuclear energy generally; changes in the political environment; risks associated with war in Europe; changes in the laws, rules and regulations governing Lightbridge's business; development and utilization of, and challenges to, Lightbridge's intellectual property; risks associated with potential shareholder activism; potential and contingent liabilities; as well as other factors described in Lightbridge's filings with the Securities and Exchange Commission (the "SEC"). Lightbridge does not assume any obligation to update or revise any such forward-looking

statements, whether as the result of new developments or otherwise, except as required by law. Readers are cautioned not to put undue reliance on forward-looking statements.

A further description of risks and uncertainties can be found in Lightbridge's Annual Report on Form 10-K for the fiscal year ended December 31, 2024, and in its other filings with the SEC, including in the sections thereof captioned "Risk Factors" and "Forward-Looking Statements", all of which are available at http://www.sec.gov/ and www.ltbridge.com.

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Photos accompanying this announcement are available at:
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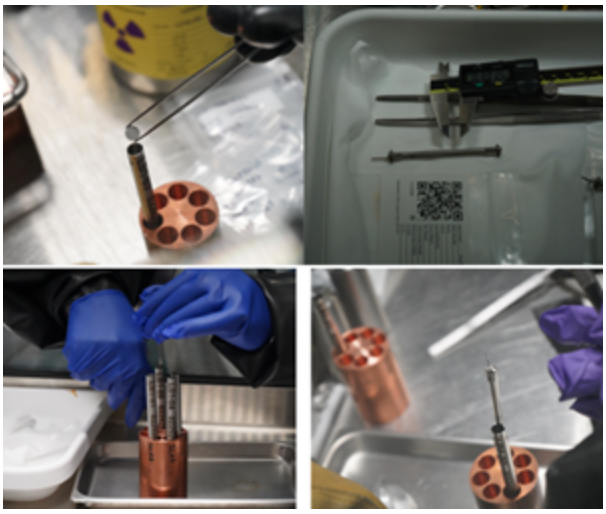
Image 1

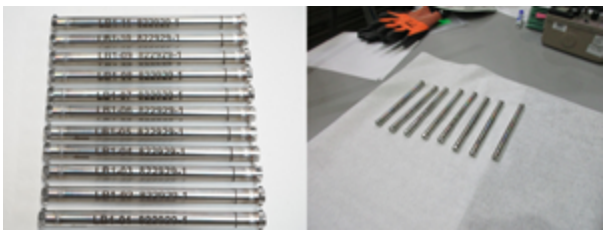
Loading fuel into rodlet holders

Image 2



Loading fuel into inner capsule

Image 3



Capsules containing Lightbridge Fuel material samples before loading into an experimental assembly

Image 4

Members of the Lightbridge and INL teams observing the capsule loading into an experimental assembly

Image 5

One of the capsules being handed to the operator for loading into an experimental assembly

Image 6

Loading of one of the capsules into an experimental assembly in the ATR canal

Image 7

Observing the loading of the capsules via video monitoring system

Source: Lightbridge Corporation