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Lightbridge Expects to Benefit from Advanced Expedited Testing Method in its Planned Irradiation Testing in the Advanced Test Reactor

RESTON, Va., June 03, 2025 (GLOBE NEWSWIRE) -- Lightbridge Corporation (Nasdaq: LTBR), a leader in advanced nuclear fuel technology, today announced it expects to benefit from a groundbreaking testing method developed by Idaho National Laboratory (INL), known as the Fission Accelerated Steady-state Test (FAST). This pioneering method utilizes increased enrichment levels to expedite the irradiation testing of fuel samples in the Advanced Test Reactor (ATR).

Use of Highly Enriched Uranium (HEU) in private sector fuel testing is exceedingly rare. HEU, defined as uranium enriched to 20% or more uranium-235, is tightly controlled and legally accessible only through government-operated facilities. The enrichments in the 26-30% range for each set of Lightbridge coupon samples were selected to yield the required linear heat generation rates based on the specific core position within the Advanced Test Reactor where the experiment is planned to be inserted for irradiation testing.

"Lightbridge is thrilled to benefit from the FAST method at INL," said **Dr. Scott Holcombe, Vice President of Engineering at Lightbridge**. "This advanced technique enables achieving burnup targets faster than using conventional testing methods, which means we can acquire necessary performance data in an accelerated time frame."

The planned irradiation testing program, along with post-irradiation examination activities (the scope of which will be detailed in a future Project Task Statement), is aimed at generating critical irradiation performance data for Lightbridge's advanced fuel. This data will play a key role in supporting the company's regulatory licensing through the U.S. Nuclear Regulatory Commission (NRC) and the company expects this data to contribute to streamlined, expedited licensing under the ADVANCE Act. The company also expects to share this data with utilities to assist in their analyses of Lightbridge Fuel for use in commercial nuclear power plants.

Seth Grae, CEO of Lightbridge, added: "We are grateful to the U.S. Department of Energy (DOE) for providing the HEU and to INL and DOE for enabling Lightbridge fuel material samples to be tested using this innovative FAST method. It reflects the importance of strong public-private partnerships in advancing clean energy technologies. This is an excellent example of the U.S. government using its advanced technologies and resources, particularly HEU and the Advanced Test Reactor, to support commercialization of advanced nuclear fuel technologies potentially on accelerated timelines."

This work is conducted under an existing Cooperative Research and Development Agreement (CRADA) between Lightbridge and Idaho National Laboratory. More details on

FAST can be found at:

- <https://www.sciencedirect.com/science/article/pii/S1738573322003394>
- https://inldigitallibrary.inl.gov/sites/sti/sti/Sort_26670.pdf

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.

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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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Source: Lightbridge Corporation