Lightbridge

JULY 2026

NEWSLETTER

Nuclear News and Updates from Lightbridge

Lightbridge Participates in Launch of UPRISE Nuclear Power Uprate Event at the White House

Read More

Lightbridge Chairman & CEO Seth Grae at the UPRISE launch at the White House (June 17, 2026)

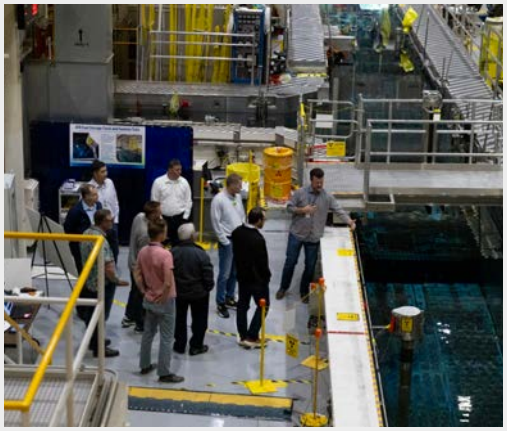
LIGHTBRIDGE AT THE WHITE HOUSE

"UPRISE recognizes a straightforward reality: the fastest and most cost-effective megawatts we can add to the grid are the ones we draw from reactors already operating today. Lightbridge Fuel™ is being designed to deliver the greatest power uprates available to the existing pressurized water reactor fleet, and we were proud to take part in the launch of an initiative aimed squarely at that opportunity."

Lightbridge CEO Seth Grae

First Lightbridge Fuel™ Material Samples Emerge from Idaho National Laboratory's Advanced Test Reactor as Post-Irradiation Examination Nears

The combined Lightbridge and Idaho National Laboratory Team (May 7, 2026)



Several members of Lightbridge team looking over the ATR canal (May 6, 2026)

A capsule with an irradiated Lightbridge coupon sample inside after removal from the ATR (May 6, 2026)

On May 6, 2026, a moment years in the making arrived at the Idaho National Laboratory: the first batch of Lightbridge Fuel™ material samples undergoing irradiation at INL's Advanced Test Reactor (ATR) was successfully removed from the reactor. The samples now enter a cooldown period expected to last several months, after which they will move into post-irradiation examination — the phase of testing where the real story of how the fuel material performed under reactor conditions begins to be told in hard data. That examination is expected to begin later this year.

This was not a milestone Lightbridge watched from afar. The Company's full-time fuel engineering team and senior management — 24 Lightbridge personnel in total — were on site at INL for the removal. The following day, May 7, the Lightbridge team met with the INL personnel leading the project, including John Wagner, Laboratory Director of Idaho National Laboratory, and Jess Gehin, Associate Lab Director, to discuss progress to date and the path forward across the multiple Lightbridge projects currently underway at the laboratory. The size of the delegation speaks to what this campaign represents: a company-wide commitment to a testing program at the heart of Lightbridge's development pathway.

Why This Matters

The removed samples will undergo post-irradiation examination to collect data on fundamental material properties under high-burnup irradiation conditions — data that will support the broader testing program aimed at confirming the safety, performance, and economic advantages of Lightbridge Fuel relative to conventional nuclear fuel used in commercial reactors worldwide.

President and CEO Seth Grae framed the achievement in exactly those terms: "The data already developed at the Advanced Test Reactor is a meaningful validation of the innovation and engineering behind Lightbridge Fuel."

Read the Announcement

Lightbridge and Studsvik Partner on Next-Generation Fuel Product Software

On May 13, 2026, Lightbridge announced a partnership with Studsvik Scandpower, Inc. to develop an extension of the Studsvik CMS5 Core Management Suite to model the Lightbridge Fuel™ design. The collaboration will give the commercial nuclear sector a software package for light water reactors fully supported by state-of-the-art Studsvik software already in use by customers around the world — meaning utilities evaluating Lightbridge Fuel will be able to do so within a core management platform the industry already knows and trusts.

Read the Announcement

Lightbridge Taps Stern Laboratories for Multi-Phase Thermal Hydraulic Test Program Supporting U.S. Licensing of Lightbridge Fuel™ for Light Water Reactors

On March 18, 2026, Lightbridge announced an initial engineering contract and statement of work with Stern Laboratories Inc., a leading employee-owned Canadian provider of specialized nuclear experimental services and tooling, to assess the thermal and hydraulic performance of Lightbridge Fuel™ for use in light water reactors.

Read the Announcement

Lightbridge Joins Industry Advisory Board of DOE-Funded Project with Penn State

On March 25, 2026, Lightbridge announced its selection to serve on the Industry Advisory Board of a $6 million nuclear materials research project funded by the U.S. Department of Energy's Nuclear Energy University Program awarded to Penn State University.

Read the Announcement

Lightbridge Experts Take the Stage at TMS2026, Presenting Research That Validates a Lightbridge-Specific Fuel Modeling Framework Built from Real Coupon Data

On March 19, 2026, Lightbridge announced that two of its technical managers and subject matter experts presented key research findings at the TMS2026 Annual Meeting & Exhibition in San Diego — one of the premier global conferences for materials science, metallurgy, and nuclear fuel technology. Dr. Geoffrey (Boone) Beausoleil, Director of Materials, delivered a talk co-authored with Dr. Scott Holcombe, Vice President of Engineering, examining how metallic fuel concepts can extend to a broader class of advanced reactor designs beyond the sodium fast reactor systems that have historically anchored metal fuel development. Dr. Kyle Paaren, Manager of the Fuel Performance Group, presented a comprehensive technical review of uranium-zirconium alloy properties — co-authored with Raymond Wang, P.E., Director of Licensing, along with Dr. Beausoleil and Dr. Holcombe — marking a significant milestone in Lightbridge's fuel qualification pathway: a demonstration that the Company's proprietary UZr_2 fuel can be accurately modeled and characterized through a newly validated, Lightbridge-specific framework built from real measured data from the Company's own fuel material coupon samples. Both talks were delivered during the metal fuels session, chaired by Professor Ericmoore Jossou of MIT. As Dr. Paaren put it, the U-Zr alloy work is foundational to everything Lightbridge is building — the properties data directly informs how the Company models and validates fuel performance — and CEO Seth Grae noted that the presentations reflect the world-class nuclear engineering expertise assembled at Lightbridge and reinforce the Company's position at the forefront of advanced nuclear fuel innovation.

Dr. Geoffrey (Boone) Beausoleil, Director of Materials

Dr. Kyle Paaren, Manager of the Fuel Performance Group

Read the Announcement

THE NATIONAL INTEREST

Advanced Nuclear Fuels Are Critical to America's Nuclear Revival

By: Seth Grae, and Raymond Wang

America's nuclear revival is gaining momentum, but long-term success will depend on fuel innovation, licensing reform, and modernized fuel-cycle infrastructure.

Many in the nuclear power industry, among others, are hopeful that the four executive orders (EOs) signed by President Donald Trump one year ago will lead us into a "nuclear revival." There is no question about the need for a dramatic expansion of power production, given the boom in artificial intelligence (AI), data centers, bitcoin mining, and the electrification of some transportation, etc. A significant increase in nuclear energy within a diversified energy mix is essential to meet the upcoming demand for power that is clean and assures national energy security.

These EOs direct the reform of the Nuclear Regulatory Commission (NRC) in order to speed up approvals without sacrificing safety; reform the Department of Energy's (DOE) roles in testing new reactor designs; reinvigorate the nuclear industrial base; and deploy advanced nuclear reactor technologies in the service of our national security.

NRC Reform and DOE Innovation Are Accelerating Nuclear Momentum

Now that the EOs have been out for a year, it is a good time to evaluate what has occurred.

The NRC is experiencing a transformative realignment from an organization focused on process to a mission-oriented commission committed to ensuring that new applications are rapidly reviewed while continuing the organization's world-class leadership in nuclear safety.

At DOE, we see an energized Nuclear Energy (NE) Office moving to meet the intent of the EOs. It has moved from its traditional role as a project management and appropriations allocation entity into a federally-

-empowered authorizer of bold and innovative projects through Project Launch Pad. If NE is successful in these pursuits, it will make its Atomic Energy Commission forebears proud. We eagerly await seeing what DOE will do with Project Velocity, which may reinvigorate the DOE labs and spur even greater innovation in the nuclear energy space.

The nuclear energy industry has eagerly embraced the clear guidance from the EOs, and many innovative companies are racing to meet the demand with "shovel-ready" projects that span from west of the Rocky Mountains to the hills of Appalachia. We attribute this to widespread recognition in the industry that we may never again see the stars align as they have now, with the executive and legislative branches of government fully supportive of a nuclear revival.

Also worthy of mention is that our allies are taking note, and it isn't a coincidence that Rolls-Royce SMR, Newcleo, and Blykalla are all companies based in other countries that are growing their US presence and exploring US nuclear projects and finance.

Advanced Nuclear Fuels and Fuel Cycle Infrastructure Remain Critical

However, achieving a true nuclear revival will require not only advanced reactors but also the modernization and acceleration of advanced nuclear fuel designs, as well as supporting fuel cycle infrastructure necessary to sustain commercial-scale operations.

There remains an opportunity for Congress to further align nuclear policy frameworks with the realities of next-generation fuel innovation and commercialization. As a company that develops advanced nuclear fuels, we recognize how vital such fuels are to the nuclear revival. Indeed, most people are unaware that when we discuss nuclear reactors, virtually the only component that is truly nuclear is the fuel.

The bipartisan Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy Act (ADVANCE), which is intended to foster and provide impetus to the nuclear revival, wisely provides favorable rates at the NRC for applicants seeking approval of advanced nuclear reactors.

Through its implementation, the ADVANCE Act provides long-term regulatory certainty and clearly defines licensing frameworks that have attracted significant private investment and accelerated the deployment of advanced reactors.

With new nuclear buildouts coming closer into view, as envisioned in the EOs, nuclear fuel suppliers are also looking to build and innovate to meet the moment. This acceleration provides both the Trump administration and Congress with a unique bipartisan opportunity to provide leadership for reforming DOE and NRC frameworks for qualifying innovative fuel designs and licensing fuel-cycle facilities that have not yet benefited from nuclear legislation. We are confident that with such new legislation, Congress would help unleash dramatic innovations in nuclear fuels in the United States.

Innovative nuclear fuels are uniquely positioned to enhance the performance, economics, and safety of both the current reactor fleet and advanced reactor technologies. The coming years present a rare opportunity for policymakers, regulators, and industry leaders to work collaboratively towards a modernized framework that enables advanced nuclear technologies—especially advanced nuclear fuels—to move from demonstration to large-scale deployment. Our nation's ability to take these innovations and rapidly scale them to commercial levels will provide a significant opportunity to strengthen domestic manufacturing capacity, create a highly skilled American workforce, and secure US leadership in global nuclear energy markets.

About the Authors: Seth Grae and Raymond Wang

Seth Grae is the president and CEO of Lightbridge Corporation, leading the organization's efforts to develop and deploy advanced nuclear fuel technology to generate more electricity while enhancing safety and proliferation resistance. Seth is chairman of the American Nuclear Society's International Council, a member of the American Nuclear Society's Trustees of Nuclear Leadership Council, a member of the Board of Directors of the Nuclear Energy Institute, a member of the Board of Directors of the Virginia Nuclear Energy Consortium, and a member of the

New York State Energy Research and Development Authority's Workforce Development and Supply Chain Technical Working Group.

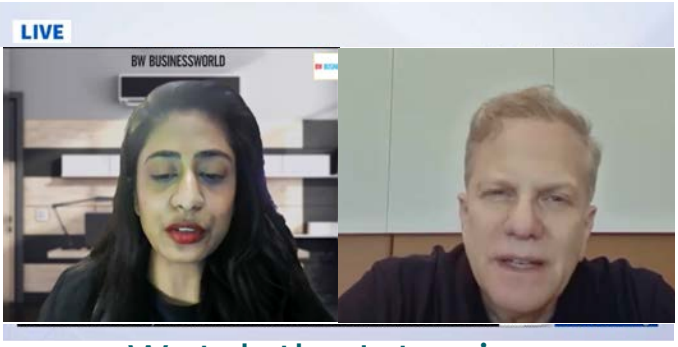
Raymond Wang is the director of the licensing group at Lightbridge Corporation, where he leads licensing and regulatory affairs for Lightbridge FuelTM and Lightbridge Expandable Fuel Facility (LEFF). Before joining Lightbridge, he served as a nuclear fuel systems engineering manager at X-Energy. Prior to that, he held safety analysis and methods development roles at Constellation and Duke Energy, supporting fleet-wide PWR operations and licensing. Raymond holds a BS in nuclear engineering from the University of California, Berkeley, and an MS in nuclear engineering from the University of Michigan.

Read the Article

BNN Bloomberg Interview: Advancing Nuclear Fuel & The Global Energy Resurgence

In this interview on BNN Bloomberg, Lightbridge President and CEO Seth Grae discusses the worldwide resurgence in nuclear power, driven by surging electricity demands from industrial expansion, electrification, and AI.

Watch the Interview



Watch the Interview

BW Businessworld Interview: Very Different Time For India US Nuclear Cooperation'

In an interaction with BW Businessworld, Seth Grae discusses why India-US commercial nuclear cooperation moved slower than expected, the role US companies can play in helping India achieve its 100 GW target, the future of advanced nuclear fuel technologies in India, and whether the regulatory environment is becoming more conducive for foreign participation.

Powering the Future: India's 100GW Nuclear Goal, Energy Demands, & Lightbridge Fuel | CNBC Asia

In this CNBC Asia interview, Seth Grae discusses a recent U.S. delegation to India aimed at expanding private investment and technological partnerships in the civil nuclear sector, and Lightbridge Fuel, currently undergoing testing at the U.S. government's Idaho National Laboratory.

Watch the Interview

Watch the Presentation

Presentation at the 12th Annual Gabelli Waste & Environmental Services Symposium

Lightbridge CEO Seth Grae presents at the 12th Annual Gabelli Waste & Environmental Services Symposium held on April 9th, 2026. Moderated by Michael Burgio, Gabelli Research Analyst.

Interview on the Schwab Network

Lightbridge CEO Seth Grae was interviewed on the Schwab Network's Morning Movers by Diane King Hall to discuss the ongoing development of Lightbridge Fuel and the growth of the nuclear energy sector.

Watch the Interview

Cheddar Interview: From Davos to Data Centers: Nuclear Energy's New Moment

As AI and electrification drive record power demand, nuclear energy returns to the spotlight. Lightbridge CEO Seth Grae explains how advanced fuel could reshape the grid.

Watch the Interview

Interview on the Schwab Network from January 23, 2026

Lightbridge CEO Seth Grae joins Marley Kayden live from Davos, where he says executives share greater optimism for nuclear power's outlook. As calls for more electricity increase amid surging AI demand, Seth explains that Lightbridge tests the fuel behind nuclear power and how it fuels that demand. He also talks about Oklo Inc. (OKLO) and how it and Lightbridge compete in different aspects of the nuclear energy trade.

Watch the Interview

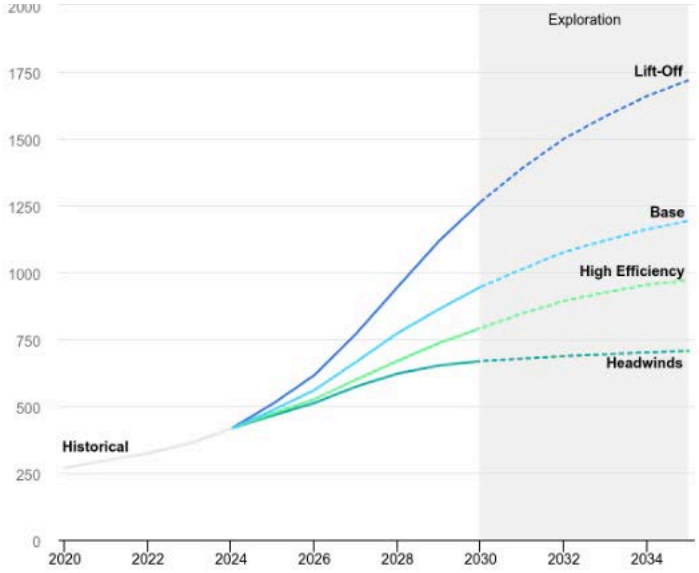
Presentation at the 28th Annual Needham Growth Conference

delivered a presentation at the 28th Annual Needham Growth Conference on January 14, 2026

Watch the Presentation

Surging AI Needs and Geopolitical Supply Shocks Herald Nuclear Energy Revival — Lightbridge's Seth Grae co-authored a World Economic Forum article on how AI-driven electricity demand and energy-security shocks are fueling a global nuclear renaissance, from hyperscaler financing to SMR deployment

On April 21, 2026, the World Economic Forum published "Surging AI needs and geopolitical supply shocks herald nuclear energy revival," co-authored by Lightbridge President and CEO Seth Grae and Maciej Kolaczkowski, Manager of the Forum's Advanced Energy Solutions Industry. The article argues that AI, data centers, and a more volatile geopolitical environment — including energy-market turmoil tied to the war in Iran and the closing of the Strait of Hormuz — are pushing nuclear energy to the top of the agenda, given nuclear's energy-security advantages: dispatchable, round-the-clock power with reduced reliance on imported fuels, since plants typically refuel only every 18 to 24 months and can store years of additional fuel on-site.



Global data centre electricity consumption by sensitivity case, 2020-2035
Image: International Energy Agency

The numbers behind the renaissance are staggering — global data center electricity consumption of roughly 415 TWh in 2024 projected to reach about 945 TWh by 2030, 63 reactors under construction worldwide per the IEA, and a U.S. plan to spend $80 billion building ten AP1000 large-scale reactors. Costs should fall as the industry shifts toward standardization and repetition, where deep-pocketed AI hyperscalers, for whom reliable electricity is an existential business need, face far fewer financing constraints than traditional utilities.

Read the Full Article

Vital Speeches International — the century-old journal that curates "the best thoughts of the best minds on current international questions" — recently published Lightbridge's Seth Grae's address "Fueling Nuclear Energy's Global Growth," delivered June 4, 2026 at the Ferguson Library in Stamford, Connecticut, in his capacity as Chairman of the American Nuclear Society International Council. The July issue places Mr. Grae alongside the President of Taiwan, the Prime Minister of Canada, and the Presidents of Vietnam, Ghana, and Nigeria — a measure of the stature the nuclear conversation, and Lightbridge's voice within it, now commands.

The speech builds an important case: global electricity demand is accelerating, with U.S. demand projected to grow roughly 25% by the early 2030s and data centers potentially accounting for 12% of all U.S. electricity use by 2030; the U.S. has committed to quadrupling domestic nuclear power by 2050 — the equivalent of adding nearly 300 large reactors — while more than 20 nations have pledged to triple global capacity; and public support for nuclear has climbed to about 60% of U.S. adults, up from 43% in 2020. But the heart of the address is what Mr. Grae called the point that gets lost in most nuclear conversations: the fuel is the reactor's beating heart, and while other companies make incremental improvements to old fuels, Lightbridge is developing the only truly new nuclear fuel — Lightbridge Fuel™, a metallic uranium-zirconium alloy co-extruded with its cladding in a patented helical multi-lobe geometry, designed to transform existing reactors into advanced reactors without new plants, vessels, or containment structures, extend fuel cycles from 18 to 24 months, and deliver improvements in safety, power output, fuel-cycle economics, and non-proliferation.

With the addressable market spanning almost all global nuclear power and the DOE's new UPRISE initiative squarely focused on maximizing output from existing reactors, Grae's closing argument doubles as Lightbridge's thesis: the single most impactful thing you can do to make the world's reactor fleet safer, more proliferation-resistant, and more economical is to give it advanced fuel.

Read the Full Speech

ET Government
Your Exclusive e-Governance Source

India's Nuclear Future: Insights from Seth Grae on Policy, Technology and the SHANTI Act — Seth Grae discussed India's push toward 100 GW of nuclear capacity by 2047, the fuel opportunity for U.S. companies, and how the SHANTI Act's implementation rules will shape foreign participation (ET Government / The Economic Times).

In a wide-ranging interview on India's nuclear future, Lightbridge President and CEO Seth Grae made the case that as India seeks to expand its nuclear power capacity from 8 GW to 100 GW by 2047, civil nuclear cooperation with the United States is regaining momentum — and that the single largest opportunity in that expansion may be nuclear fuel itself. Grae's argument is structural: a reactor is built once and can operate for decades, but fuel must be supplied continuously throughout that lifespan, making it central to a reactor's output, efficiency, cost, and safety — and advanced fuels like Lightbridge Fuel™ are designed to increase reactor output, lower electricity production costs, and improve safety characteristics. On policy, Grae pointed to India's recently passed SHANTI Act as a move in the right direction on the nuclear liability question that has long deterred foreign suppliers, while cautioning that implementation will hinge on the operational rules expected from India's Department of Atomic Energy in the coming months — rules foreign companies are waiting to review before judging how workable the regulatory environment will be in practice. He also noted that the recent U.S. civil nuclear trade mission to India reflected a coordinated government-and-industry push, with expectations extending beyond building infrastructure in India to collaboration on exports, manufacturing, and investment across global markets — and, notably, that Lightbridge is in the process of selecting a site for a pilot-scale fuel manufacturing facility that can eventually expand into commercial-scale production.

Read the Full Interview

INTERESTING ENGINEERING

World's Most Powerful Nuclear Test Reactor Removes First Lightbridge Fuel Samples — Interesting Engineering covered the ATR milestone, highlighting the FAST testing method, the upcoming post-irradiation examination, and the data's role in fuel performance modeling and licensing (Interesting Engineering).

Lightbridge's ATR milestone reached a global engineering audience on June 26, 2026, when Interesting Engineering — one of the world's most widely read engineering and technology publications — covered the removal of the first irradiated Lightbridge Fuel™ material samples from Idaho National Laboratory's Advanced Test Reactor. The article walked readers through why the achievement matters: the ATR is regarded as the world's most powerful test reactor and one of America's most important nuclear research facilities, purpose-built to concentrate intense neutron radiation on the fuels and materials it tests, and the Lightbridge samples were irradiated there using the INL-developed FAST method, which uses highly enriched uranium to reach high-burnup conditions far faster than conventional testing.

Read the Full Article

Letter to Stockholders

To our Valued Shareholders,

Let me start with the big picture, because the scale is difficult to overstate. The world is entering an era of unprecedented electricity demand. Global electricity demand is not just growing — it is accelerating. In the United States alone, demand is projected to grow by approximately 25% by the early 2030s. But the United States is only part of the story. Across the developing world, billions of people are gaining access to electric power. Economies are electrifying transportation, heating, and industrial processes that previously relied on fossil fuels. Layered on top of all this is the rapid expansion of artificial intelligence and data centers, which require massive amounts of reliable, baseload electricity.

From L to R: U.S. Senator Mike Lee (UT), Lightbridge CEO Seth Grae, U.S. Energy Secretary Christopher Wright, discussing the resurgence of the U.S. nuclear energy sector

Against this backdrop, nuclear energy is once again widely recognized as essential. Governments around the world have committed to expanding nuclear capacity to achieve energy security, decarbonization, and economic growth. However, meeting this demand at the pace required will depend on solutions that can be deployed faster and more cost-effectively than building entirely new reactor fleets.

This is where Lightbridge occupies a unique and differentiated position in the nuclear industry.

Lightbridge is not developing a new reactor that may take decades to license, construct, and deploy. Instead, we are developing a fundamentally new nuclear fuel: a metallic uranium-zirconium alloy, co-extruded with its cladding in a patented helical multi-lobe geometry. This is a new fuel invention, not an incremental evolution of today's fuel designs.

Our fuel is designed for use in existing and new light-water reactors, enabling significantly higher power output while simultaneously enhancing safety.

Today, the vast majority of nuclear electricity worldwide is produced by large light water reactors (LWRs), and almost all nuclear plants under construction or on order are LWRs. These reactors are designed to operate for many decades, often approaching a century through continued license extensions. We expect that virtually all LWRs, existing and new, can be upgraded to use Lightbridge Fuel, making fuel upgrades one of the most practical and cost-effective ways to expand nuclear energy output using infrastructure that is already licensed, built, and connected to the grid.

While the global industry is also developing over a hundred new reactor concepts, including microreactors, advanced reactors, and small modular reactors, we believe that electricity produced by existing and new LWRs using Lightbridge Fuel has the potential to achieve lower levelized cost of electricity than power from the emerging designs, including light water SMRs, while delivering meaningful capacity growth at global scale.

Lightbridge and INL team performing a visual inspection of a finished enriched uranium-zirconium coupon sample inside a glovebox

2025 Achievements: Fuel Development Execution

During 2025, Lightbridge achieved significant fuel development milestones, advancing from design and fabrication into active in-reactor testing. Key accomplishments included:

Final Design Review Completed (June 2025):
Successfully completed the final design review for our irradiation experiment at Idaho National Laboratory's Advanced Test Reactor (ATR). This rigorous, multidisciplinary review independently validated our neutronics, thermal-hydraulics, and mechanical design parameters, clearing the path to fabrication and irradiation.

Took Advantage of the FAST Method (June 2025):
Announced the use of the Fission Accelerated Steady-state Test (FAST) method, utilizing highly enriched uranium (26–30%) to accelerate burnup accumulation and compress testing timelines while preserving data relevance for NRC licensing.

Key Fabrication Milestone Achieved (July 2025):
Successfully produced enriched uranium-zirconium alloy coupon samples using our proprietary co-extrusion process, the same process envisioned for commercial-scale manufacturing.

ATR Insertion and Start of Capsule Irradiation Testing (October–November 2025):
Loaded capsules containing the fabricated fuel material coupon samples into the ATR experiment assembly and commenced irradiation testing to generate critical burnup-dependent performance data.

These accomplishments collectively moved Lightbridge from years of preparatory engineering work into active in reactor validation — a critical inflection point in our fuel qualification process.

Near-Term Milestones: The Next 12–24 Months

Over the next 12 to 24 months, Lightbridge plans to focus on a defined sequence of technical and regulatory milestones. Each of these steps is designed to systematically reduce technical, regulatory, and commercialization risk:

Post-Irradiation Examination (PIE) of INL Test Samples
Evaluation of structural integrity, dimensional stability, fission product behavior, and thermal performance of irradiated coupon samples.

Continued Development of the Fabrication Process
Refinement and scale-up of the patented co-extrusion process, supporting future rodlet and full-length fuel rod fabrication.

Progression Toward Fuel Rodlet Testing in a Reactor
Transition from material-level testing to rodlet-level in-reactor testing, a key step toward full fuel assembly qualification.

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

Site Selection and Deployment Planning for the Lightbridge Expandable Fuel Facility (LEFF)
Initial site evaluation and deployment planning to support future commercial fuel manufacturing.

Expansion of Modeling and Safety Analysis Capabilities
Continued development of neutronics, thermal-hydraulics, and fuel performance models, including RELAP5-3D and BISON work, to support licensing and prospective utility customer engagement.

Initiation of NRC Engagement
Commencement of structured, ongoing interaction with the Nuclear Regulatory Commission in support of fuel qualification and licensing.

Structured Engagement with Prospective Utility Customers
Re-establish and expand disciplined, ongoing engagement with nuclear utilities to align Lightbridge Fuel design, testing, and licensing activities with utility operational, economic, and regulatory requirements. These interactions will inform fuel specifications, qualification strategies, deployment pathways (including lead test rod/lead test assembly programs), and commercialization planning, ensuring Lightbridge Fuel meets or exceeds utility expectations for safety, performance, reliability, and licensability.

The Lightbridge Commercialization Path

Following the successful execution of these near-term milestones, Lightbridge's commercialization pathway is well defined and aligned with established nuclear industry practices:

1. Material Testing – Completion of irradiation testing and PIE of fuel material samples.

2. Rodlet Testing – In-reactor testing of fuel rodlets to validate performance at an assembly-relevant scale.

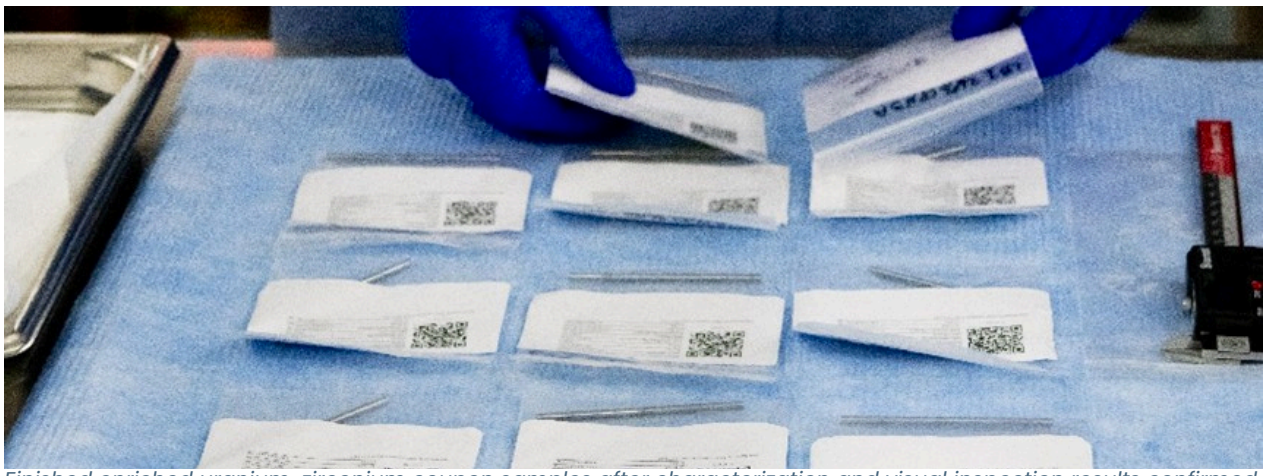
3. Lead Test Rod (LTR) and Lead Test Assembly (LTA) Demonstrations – Deployment of lead test rods and/or lead test assemblies in operating commercial reactors.

4. NRC Licensing – Regulatory approval of Lightbridge Fuel for commercial use.

5. Batch Reloads – Initial commercial reload batches in operating reactors.

6. Broad Commercial Adoption – Expansion across the global water-cooled reactor fleet.

Each stage represents a clear value inflection point and further risk reduction on the path to commercial deployment.



Finished enriched uranium-zirconium coupon samples after characterization and visual inspection results confirmed their suitability for irradiation testing in the Advanced Test Reactor

Expanded Scope at Idaho National Laboratory and Industry Engagement

In addition to our ongoing irradiation testing work, we significantly expanded our activities at Idaho National Laboratory in 2025, including:

- Review of the Lightbridge Fuel Qualification Plan
- RELAP5 3D and BISON code development for Lightbridge Fuel
- Post-irradiation examination for Lightbridge's fuel material samples

We also strengthened our in-house technical team across neutronics, thermal-hydraulics, materials, fuel performance, regulatory licensing, and program management to support the next phase of fuel development and NRC engagement.

In March 2026, we announced an initial engineering contract with Stern Laboratories, Inc. ("Stern Labs") to assess the thermal and hydraulic performance of Lightbridge Fuel for use in Light Water Reactors ("LWRs"). Stern Labs is a leading employee-owned Canadian provider of specialized nuclear experimental services and tooling to the nuclear industry. Stern Labs' expertise in manufacturing electrically heated nuclear fuel simulators and performing full-scale critical heat flux and component qualification tests makes them an ideal partner. We expect that the data from this program will demonstrate the improved thermal margins of Lightbridge Fuel in LWRs and support U.S. regulatory licensing for commercial deployment.

Finally, we further demonstrated growing industry engagement by presenting three technical papers at the ANS TopFuel 2025 conference, addressing safety performance, transient behavior, and fabrication modeling—reinforcing confidence across regulators, partners, and utilities.

Enriched Uranium-Zirconium Rod Post-Extrusion

Close-up View of the Enriched Uranium-Zirconium Rod Post-Extrusion, still covered in the extrusion lubricant

Commitment to Nuclear-Grade Quality

As we advance toward commercialization, we are equally focused on how Lightbridge Fuel will be manufactured and delivered. Utilities rightly expect nuclear suppliers to meet the highest standards of quality, reliability, and discipline, and we recognize that maintaining those standards across the supply chain has become an increasing focus for operators worldwide.

From design through fabrication and eventual commercial production, Lightbridge is committed to the highest nuclear quality assurance practices and a culture of engineering rigor that meets or exceeds utility and regulator expectations. Quality is not a compliance exercise for us; it is a core design requirement. As we move toward commercial fuel supply, our objective is to be viewed by utilities not simply as a new fuel supplier, but as a **best-in-class** one.

Looking Ahead

The nuclear energy industry is experiencing its strongest policy and market support in a generation. As demand for reliable, clean, baseload power accelerates worldwide, we believe Lightbridge is well-positioned to deliver a fuel technology that can increase power output, improve safety, and leverage existing reactor infrastructure.

We look forward to providing further updates as our irradiation testing progresses and as we advance toward regulatory licensing and commercialization.

Sincerely,

Seth Grae
Chairman and Chief Executive Officer
Lightbridge Corporation

ABOUT LIGHTBRIDGE

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 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 2000® Index and the Russell 3000® Index. For more information, please visit www.ltbridge.com.

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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