June 16, 2021

Lightbridge CEO Seth Grae Issues Update Letter to Shareholders

RESTON, Va., June 16, 2021 (GLOBE NEWSWIRE) -- Lightbridge Corporation (Nasdaq: LTBR), an advanced nuclear fuel technology company, today issued a corporate update in a letter to shareholders from President and CEO Seth Grae.

To our Valued Shareholders,

1. Event in China

Over the last couple of days several of you have reached out to Lightbridge with questions relating to nuclear fuel. The questions have been caused by the incident at the nuclear power plant at Taishan in China. We do not have clear and reliable enough information to definitively describe what happened. From what we understand, the incident is unlikely to pose a threat to the health or safety of the public, but we would need more information before we could definitively come to that conclusion.

From the little we have learned through news sources, assuming it is accurate, it seems that one or more nuclear fuel rods that have already provided power to the reactor have developed a breach in their cladding, which is the tube that holds the uranium pellets inside a conventional fuel rod. The breach or breaches caused gases that form inside the tube to escape into the reactor systems. These gases are normally produced by fission in uranium dioxide pellets in the fuel used today in reactors. Fuel rods should not crack in a well-operated plant, but it does happen sometimes, and the plants are designed to handle the event, and operators are trained to mitigate any resulting danger inside and outside the plant.

There is much more we could say, but at this point, we think it prudent to wait until there is additional credible information. What we can discuss are differences relating to the nuclear fuel that Lightbridge is developing.

2. Lightbridge Fuel™ is being developed to prevent this type of incident

We are developing Lightbridge Fuel™ to avoid releasing gases, even in the event of an incident like what we believe likely has occurred in China. Unlike current nuclear fuel that consists of uranium pellets in ceramic form stacked in a tube with space around the pellets that fills with gases from the fission process, Lightbridge Fuel™ is a high-technology product that is made from all metal. The metallic design is part of the technology that allows the fuel to operate about a thousand degrees Celsius cooler down the center line of the fuel rod than current fuel, while providing greater power and lowering the cost of electricity generated by the plant. The fuel consists of three zones that are metallurgically bonded together during the fabrication process. The bonding improves fuel rod integrity and thermal conductivity and eliminates a source of fission product release in the event of a breach along the fuel rod's surface. The low operating temperature of our metallic fuel results in gaseous fission

products being immobile which therefore behave as solid fission products that do not leak out of the rod in the event of a breach.

3. Lightbridge Fuel™ and renewables

The Lightbridge Fuel technology will also provide many additional benefits. Current nuclear fuel is not very good for load following with renewables due to the fragility of conventional fuel rods severely limiting the rate at which power can be ramped up or ramped down. Reactors power up very slowly, usually over a course of several days, and also ramp down in power slowly. Ramping up or down faster would risk damaging conventional fuel rods, including cracking the fuel tubes and releasing the fission product gases that build up in the rods. In addition, the nuclear plants themselves are not designed to go up in power fast, and would need more robust pipes and other components that could handle the power surges and drops more efficiently. Finally, today's large reactors have such high capital costs that most of them need to operate at full power almost all the time in order to be profitable.

Natural gas plants are being deployed globally to balance the electric grid with renewables. Gas plants can surge up and down in power as the sun rises or sets or goes behind a cloud and the winds kick up or slow or stop completely. Natural gas emits about half as much CO2 as coal. Our understanding is that it is very unlikely that grid-level battery storage will be developed that can economically back up a city in the foreseeable future, and it is equally unlikely that carbon capture will be economically deployable at a large scale to remove the CO2 from natural gas plant emissions. If the world is going to meet IPCC climate goals, we believe significant growth in nuclear power will be required. Reactors emit no CO2. Since we also believe that only a relatively small number of new large reactors will be deployed, the world will need thousands of small modular reactors, the major assembly of which can be done in factories and at shipyards and delivered to customers globally.

If the small modular reactors use the same old pellets-in-tube fuel as today's large reactors, we do not believe they will be able to surge up and down in power fast enough to balance with renewables on the grid. The small modular reactors will need to be designed with components that can handle up and down surges in power as renewables come on and off line, and with Lightbridge Fuel™ they will be able to do so with a fuel designed to prevent the release of fission product gases even in the unlikely event of a breach along a fuel rod.

4. Recent milestones in developing this technology in cooperation with the U.S. government

In March of this year, the U.S. Department of Energy (DOE) awarded Lightbridge our second funding voucher from the Gateway for Accelerated Innovation in Nuclear (GAIN) program. Under this voucher, DOE will pay 75% of the R&D costs for our collaborative work with Pacific Northwest National Laboratory. We will use depleted uranium in demonstrating Lightbridge's proprietary casting process, which is a key step in manufacturing our fuel. We expect to sign a Cooperative Research and Development Agreement soon to begin this work.

We continue to make progress under our first GAIN voucher, with Idaho National Laboratory. We are designing an experiment to irradiate our fuel using coupon samples that will contain high-assay low-enriched uranium (HALEU) in the Advanced Test Reactor. We are close to completing the experiment's conceptual design and are moving into the detailed design phase, which we expect to complete later this year. DOE is also paying 75% of the R&D costs under this GAIN voucher.

On May 11th Lightbridge announced that we successfully demonstrated our proprietary high-temperature co-extrusion process and produced fuel rods using surrogate materials of the length needed for small modular reactors.

5. Minimizing shareholder dilution and growing cooperation with the U.S. government

Our two GAIN vouchers allow Lightbridge to partner with the U.S. government while minimizing shareholder dilution. In addition to the government paying 75% of R&D costs under each voucher, DOE and its national labs provide access to world-class facilities such as the Advanced Test Reactor and the Transient Test Reactor (TREAT).

In my previous letter to shareholders in February, I discussed how the Advanced Test Reactor at Idaho National Laboratory has enough space to add two additional test loops that allow nuclear fuels and materials to be tested under specific conditions, such as those matching commercial reactors. The Advanced Test Reactor currently contains only one such test loop, and it is getting crowded with experiments that advanced nuclear companies want to run. We believe the lack of enough test loops is holding back American innovation necessary to compete globally with China and Russia. Lightbridge is working to convince the U.S. Congress and the Biden Administration to budget $35 million for FY2022 to add two new test loops.

The U.S. government continues to be a powerful ally for the nuclear power industry, because of the government's commitment to transition to clean energy and the strategic importance of nuclear power. Nuclear reactors provide one-fifth of America's total electricity, but more than half of the country's zero-emissions electricity. In addition, China and Russia's moves to deploy reactors in countries of strategic importance to the U.S., such as the United Kingdom, Egypt, and Turkey, is part of what is spurring the U.S. to support advanced nuclear technologies. It is in the nation's interest for U.S. companies to compete and win against China and Russia, to help ensure that emerging nuclear energy countries are in America's spheres of influence.

We are managing Lightbridge's cash resources to deliver shareholder value. The two GAIN vouchers cover most of our R&D costs on critical experiments to advance development of Lightbridge Fuel™. These vouchers provide sizable benefits to our fuel development efforts, while minimizing the dilution to our shareholders that would have occurred had we attempted these experiments on our own. We will continue to pursue additional DOE funding, either from the GAIN program or other funding opportunities, to further our fuel development in the most cost-efficient manner for our shareholders. The current experiments plus future experiments and modeling and simulation will help us meet criteria needed for regulatory licensing of the fuel and to prove the fuel's benefits to customers. As a publicly traded company, Lightbridge is committed to full transparency in its operations, including its ongoing fuel development efforts.

6. Russell Microcap© Index

On June 15th we announced that Lightbridge would be added to the Russell Microcap© Index on June 28th. We are proud to be one of the few publicly traded nuclear companies, and to be included in the index. The index listing will help Lightbridge broaden our investor base. Investors are increasingly learning that advanced nuclear technology is necessary for U.S. companies to compete globally and to meet climate goals.

7. Conclusion

We hope to learn more credible information soon relating to the incident at the nuclear power plant at Taishan in China. We are developing Lightbridge Fuel™ to avoid the release of gases from nuclear fuels and also to bring many additional significant benefits, including enhancing the ability of small modular reactors to load follow with renewables on a zero-emission electric grid. We are making significant progress while striving to minimize dilution to our shareholders. Thank you for your continued support.

Very truly yours,

Seth Grae

President & Chief Executive Officer

Lightbridge Corporation

About Lightbridge Corporation

Lightbridge (NASDAQ: LTBR) is an advanced nuclear fuel technology development company positioned to enable carbon-free energy applications that will be essential in preventing climate change. The Company is developing Lightbridge Fuel™, a proprietary next-generation nuclear fuel technology for Small Modular Reactors, as well as existing light-water reactors, which significantly enhances reactor safety, economics, and fuel proliferation resistance. To date, Lightbridge has been awarded twice by the U.S. Department of Energy's Gateway for Accelerated Innovation in Nuclear program to support development of Lightbridge Fuel™. Lightbridge's innovative fuel technology is backed by an extensive worldwide patent portfolio. 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 within the meaning of the Private Securities Litigation Reform Act of 1995, including statements regarding the timing and outcome of research and development activities, other steps to commercialize Lightbridge Fuel™, the benefits of Lightbridge Fuel™ and future governmental support and funding for nuclear energy. These statements are based on current expectations on the date of this communication 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: the Company's ability to commercialize its nuclear fuel technology; the degree of market adoption of the Company's product and service offerings; the Company'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, including small modular reactors; the Company'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 the Company's fuel development timeline; the increased costs

associated with metallization of our nuclear fuel; public perception of nuclear energy generally; changes in the political environment; risks associated with the further spread of COVID-19, including the ultimate impact of COVID-19 on people, economies, and the Company's ability to access capital markets; changes in the laws, rules and regulations governing the Company's business; development and utilization of, and challenges to, our intellectual property; risks associated with potential shareholder activism; potential and contingent liabilities; as well as other factors described in our filings with the Securities and Exchange Commission. 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, 2020 and in our other filings with the Securities and Exchange Commission, 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. 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 31st, 2020 and in its other filings with the Securities and Exchange Commission, 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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