Lightbridge Fourth Quarter 2024 Earnings & Business Update Conference Call

MICHELLE: Thank you for standing by and welcome to the Lightbridge Corporation business update and fiscal year 2025 conference call. Please note that today's call is being recorded. It is now my pleasure to introduce Matthew Abenante, Director of investor Relations for Lightbridge Corporation.

MATTHEW ABENANTE: Thank you, Michelle. And thanks to all of you for joining us today. Our earnings press release was distributed yesterday and can be viewed on the Investor Relations page of the Lightbridge website at www.ltbridge.com.

Joining us on the call today is Seth Grae, Chief Executive Officer, along with Andrey Mushakov, Executive Vice President for Nuclear Operations, Scott Holcombe, Vice President of Engineering, Larry Goldman, Chief Financial Officer, and Sherrie Holloway, Controller.

I want to remind our listeners that any statements on this call that are not historical facts are forward-looking statements. Today's presentation includes forward-looking statements about the company's competitive position and product and service offerings. During today's call, words such as expect, anticipate, believe, and intend will be used in our discussion of goals or events in the future.

This presentation is based on current expectations and involves certain risks and uncertainties that may cause actual results to differ significantly from such estimates. These and other risks are set forth in more detail in Lightbridge's filings with the Securities and Exchange Commission. Lightbridge does not assume any obligation to update or revise any such forward-looking statements, whether as a result of new developments or otherwise.

And with that, I would like to turn the call over to our first speaker, Seth Grae, Chief Executive Officer of Lightbridge. Hello, Seth.

SETH GRAE: Well, hello. And thank you, Matt. And thank you all for joining us to discuss Lightbridge's 2024 results. We are gathering at a remarkable moment for nuclear energy. The industry is experiencing what many are calling a renaissance or resurgence. With unprecedented support from both the public and private sectors in the United States and around the world, this shift isn't just about building new reactors. It's about reimagining nuclear power's role in our clean energy future.

We're particularly excited about the transformation in the commercial sector. Major technology companies like Microsoft and Amazon are actively pursuing nuclear power solutions for their data centers to secure reliable, clean, baseload power for critical infrastructure. When tech giants, who have built their success on innovation and forward thinking choose nuclear, it sends a powerful message about the future of energy.

At Lightbridge, we believe we're uniquely positioned to support this industry transformation. Our metallic fuel technology represents a step change in nuclear fuel performance. We expect the unique multi-lobed fuel rod geometry, superior heat transfer properties, and lower operating temperatures of our all-metal fuel design to offer both economic and safety benefits that could be transformative for the industry.

Last month, we took an important step forward by signing a memorandum of understanding with Oklo. This collaboration could create significant fuel fabrication synergies and open up promising opportunities in advanced fuel recycling. We believe this partnership can help accelerate innovation across the nuclear supply chain.

Our work with the Department of Energy's national laboratories continues to advance our research and development initiatives. These partnerships are crucial because they give us access to world class facilities and expertise, while maintaining our capital efficient approach to development.

We achieved an important manufacturing milestone earlier this month at Idaho National Laboratory. Our team successfully demonstrated our proprietary co-extrusion process, a special fabrication technique that combines two elements, a uranium zirconium fuel mixture surrounded by a protective zirconium alloy outer layer called the cladding. Using specialized equipment, we created an 8-foot long fuel coupon sample.

INL scientists are now analyzing the coupon sample to verify its quality and fabrication parameters. At Lightbridge, we're focused on ensuring our fuel technology can help support this nuclear renaissance. Delivering more power while making reactors safer, more efficient, and more economical to operate.

Now, I'll turn the call over to Andrey Mushakov, Executive VP for Nuclear Operations, to begin the review of our fuel development activities. Andrey?

ANDREY MUSHAKOV: Thank you, Seth. As Seth mentioned, in January of this year, we announced the signing of a memorandum of understanding, MOU, with Oklo. Oklo is developing advanced microreactors to provide clean, reliable, and affordable energy at scale. The scope of this MOU includes the following areas. Number one, to conduct a preliminary evaluation of feasibility of co-locating a Lightbridge commercial scale fuel fabrication facility at Oklo's proposed commercial fuel fabrication facility site.

Number two, to explore opportunities for collaboration on reprocessing and recycling of spent uranium zirconium fuel. And number three, to explore any other areas of collaboration that may be of mutual interest. We believe that there may be some potential synergies in co-locating, our commercial scale fuel fabrication facility at Oklo's proposed site. Recycling and reprocessing spent uranium zirconium fuel represents another area of potential synergies, particularly as the United States is starting to look more seriously at spent fuel reprocessing options.

Over the past year, we have continued to make progress on our fabrication process demonstration efforts at Idaho National Laboratory or INL. After achieving a critical milestone of extrusion in unclad cylindrical rod sample of Lightbridge Fuel material, consisting of an alloy of depleted uranium and zirconium in March of last year, earlier this month, we announced a successful co-extrusion demonstration of a coupon sample consisting of an alloy of depleted uranium and zirconium with an outer cladding made of nuclear-grade zirconium alloy material at Idaho National Laboratory.

The co-extrusion process demonstration conducted at INL entailed pressing the metallic alloy billet encased in zirconium alloy cladding through a die to produce a cylindrical rod with a length of approximately 8 feet. INL is currently performing characterization of the co-extruded sample to confirm the unfabricated specifications and other parameters.

In the coming months, we plan to work with INL to conduct extrusions of samples with enriched uranium and zirconium alloy for irradiation testing in the advanced test reactor at Idaho National Laboratory. In addition to our ongoing project at INL, we completed a few months ago, an engineering study with RATEN ICN to assess the compatibility and suitability of Lightbridge Fuel for using CANDU reactors. Scott will provide additional details on this project.

Finally, in early October, Lightbridge presented a technical paper at the Top Fuel 2024 conference in Grenoble, France, providing an overview of some of the company's previous fuel development activities. There were two other independent technical studies about Lightbridge Fuel presented at the technical conference. One was produced by Massachusetts Institute of Technology, or MIT, the other one by Structural Integrity Associates, or SIA.

The MIT study is supported by the US Department of Energy Nuclear Energy University programs grant simulated the performance of Lightbridge Fuel and NuScale's Voyager small modular reactor, or SMR. The SIA study conducted under a DOE gained regulatory research grant, evaluated Lightbridge Fuel in a pressurized water reactor, PWR, under both normal and accident conditions. These US government funded studies further validate the enhanced safety and performance of Lightbridge Fuel, particularly its improved performance under extreme conditions.

I'll ask Scott Holcombe, our vice president of engineering, to give us additional details on some of these ongoing projects and initiatives. Scott?

SCOTT HOLCOMBE: Thank you. Andrey. The RATEN ICN Nuclear Research Institute in Romania recently completed an engineering study to assess the initial feasibility of using Lightbridge Fuel in CANDU reactors. The results indicate that using our fuel with enrichment below 5% uranium 235 can provide double the discharge burnup of current CANDU fuel.

These results are encouraging, and we plan to perform additional evaluations of Lightbridge Fuel for use in CANDU reactors in 2025 and future years. As Andrey mentioned, during the Top Fuel 2024 conference recently held in Grenoble, France, three papers on Lightbridge Fuel were presented.

Lightbridge's paper gave an overview of some of the company's previous fuel development activities, including results from an experimental test previously conducted in an overseas test reactor. In this test, a Lightbridge metallic fuel rodlet endured approximately 24 hours with inadequate cooling during irradiation and still maintained its structural integrity and its cooling geometry.

This is in contrast to the expected performance of conventional fuel, which would not have been able-- which would not have been expected to maintain coolable geometry under similar conditions.

The other two papers presented independent studies conducted by MIT and structural integrity associates comprised simulations of Lightbridge Fuel and a NuScale SMR and PWR, respectively. According to the MIT study, the main advantages of Lightbridge over conventional fuel are Lightbridge Fuel's increased heat transfer area, its lower operating temperature, a higher margin to critical heat flux, or CHF. The cell spacing design reduced irradiation induced swelling and lower potential for formation of crud on the fuel rod cladding.

According to the study performed by Structural Integrity Associates, Lightbridge Fuel demonstrates several advantages over conventional fuel and accident conditions. These advantages include lower cladding temperature, shorter duration at high temperatures, reduced cladding oxidation, cladding stresses, insufficient to damage cladding, and enhanced safety margins.

These studies have confirmed the expected performance of Lightbridge Fuel and provide a basis for continued development and future regulatory licensing efforts. With that, I'll turn the call back over to Seth.

SETH GRAE: Thank you. Thank you very much, Scott. Looking at the broader industry, we see positive developments reinforcing our strategy. Countries around the world are recognizing that ensuring energy security requires nuclear power. In 2023, at COP28, over 20 countries committed to tripling nuclear capacity by 2050. That was a watershed moment for our industry, but what's truly exciting is where we're headed.

The recently announced Stargate project, a $500 billion AI infrastructure venture, perfectly illustrates the scale of opportunity ahead of us. We're seeing data centers emerge as a completely new market for nuclear power. That simply didn't exist in any meaningful way even two years ago. Amazon, Microsoft, Meta, and Google aren't just talking about nuclear power. They're actively pursuing it through agreements with utilities and investments to help develop and deploy new capacity.

This shift is happening because these companies recognize something fundamental. When you need reliable 24/7 carbon-free power at scale, nuclear is often the best answer. Nuclear power's ability to provide carbon-free baseload power is commanding a premium in the market, particularly from these hyperscale customers. What's particularly significant is that we're seeing a renaissance in existing nuclear assets.

We are seeing capacity upgrades, life extensions, and the recommissioning of shutdown reactors like Diablo Canyon, Palisades, Three Mile Island, and Duane Arnold. Diablo Canyon actually an extension of a license of a reactor that would have closed down. The others actually closed, but coming back. The market is recognizing the immense value of existing nuclear infrastructure.

The geopolitical landscape is also reshaping our industry. Russia's invasion of Ukraine has fundamentally altered how countries think about energy security. We're seeing this play out in policy discussions across the globe. The United Kingdom and France deploying new plants, Belgium reversing its decision to close all plants, and Canada, Sweden, Romania, and Ghana announcing plans for new deployments. The convergence of energy security concerns with technological innovation is creating unprecedented opportunities.

Looking ahead, the International Energy Agency projects nuclear capacity will more than double by 2050, reaching 916 gigawatts electric. We believe that electrifying most transportation and industrial sectors globally, while meeting current electricity needs, can only be achieved with a massive expansion of nuclear power as part of the energy mix. Several times the amount of nuclear power that was produced today.

Right now, nuclear power provides about 4% of the world's total energy consumption and 9% of global electricity generation. That might not sound like a lot, but it represents an enormous foundation for growth. With over 400 operable nuclear power reactors worldwide, nuclear power is providing carbon-free baseload power across the globe. At Lightbridge, we're positioning ourselves at the intersection of these trends. Our metallic fuel technology can potentially enable a 30% power uprate in new build water cooled reactors, while existing large reactors could achieve up rates of 17% or potentially higher.

Our task at Lightbridge is clear. Develop and deploy fuel technology that can help enable this growth safely, efficiently, and economically. We're working with the US Department of Energy's national laboratories to test and demonstrate our technology. We see this as crucial timing. Many countries are looking to expand their nuclear power capacity, especially given recent concerns about energy security and the need to reduce reliance on fossil fuels.

We're backed by a robust portfolio of intellectual property. We aim to help make nuclear power more economical and safer, while supporting the transition to clean energy. We believe this technology could play a vital role in meeting the world's growing energy needs while combating climate change. That's what makes this moment so extraordinary. And that's why I'm more optimistic than ever about our industry's future.

I'll now turn the call over to Larry Goldman, Chief Financial Officer, to summarize the company's financial

[AUDIO OUT]

LARRY GOLDMAN: Thank you, Seth. And good morning, everyone. For further information regarding our fiscal year 2024 financial results and disclosures, please refer to our earnings release that we filed yesterday and our annual report on Form 10-K, which will be filed with the Securities and Exchange Commission within the next few days.

The company's working capital position was $39.9 million at December 31, 2024, versus $25.8 million at September 30, 2024, and $28.3 million at December 31, 2023. Total assets were $41 million and total liabilities were $0.4 million at December 31, 2024.

Today, we have ample working capital and financial flexibility to support our near-term fuel development expenditures. This is very important to Lightbridge and our stockholders, as well as our external stakeholders, such as the federal government, to ensure that we have sufficient working capital, as well as the ability to access capital in the future in order to conduct our R&D activities.

Total cash and cash equivalents were $40 million, as compared to $28.6 million at December 31, 2023, an increase of $11.4 million for the fiscal year ended December 31, 2024. Cash was $26.6 million at September 30, 2024. Total cash used in operating activities for the year ended December 31, 2024 was $9.5 million, an increase of $3 million compared to $6.5 million for the year ended December 31, 2023.

The increase was primarily due to increased spending on R&D, G&A expenses, and changes in working capital, which included an increase in prepaid assets of $0.1 million and was partially offset by an increase in accounts payable and accrued liabilities of $0.2 million. Total cash provided by financing activities for the year ended December 31, 2024 was $20.9 million, an increase of $14.7 million, compared to $6.2 million for the year ended December 31, 2023.

The increase was due to an increase in net proceeds received from the issuance of common stock under our at-the-market facility, or ATM, in the year ended December 31, 2024, of $15 million, partially offset by an increase in net share settlement of equity awards for the payment of withholding taxes of $0.3 million.

In support of our long-term business and future financing requirements, with respect to our fuel development, we expect to continue to seek government funding in the future, along with new strategic alliances that may contain cost sharing contributions and additional funding from others in order to help fund our future R&D milestones, leading to the commercialization of Lightbridge Fuel. We currently anticipate investing approximately $17 million for both capital expenditures and operating expenditures in the R&D of our nuclear fuel for 2025.

Regarding our MOU with Oklo, we plan to evaluate the benefits of situating Lightbridge Fuel fabrication operations within the Oklo's proposed commercial fuel fabrication facility. This could potentially lead to cost savings in both the initial capital investment and long-term operational expenses.

I will now turn the call over to Sherrie Holloway, our controller, who will go over our P&L financial information for the fiscal year 2024. Sherrie?

SHERRIE HOLLOWAY: Thank you. Larry. Net loss was $11.8 million for the year ended December 31, 2024, compared to $7.9 million for the year ended December 31, 2023. Total R&D expenses amounted to $4.6 million for the year ended December 31, 2024, compared to $1.9 million for the year ended December 31, 2023, an increase of $2.7 million.

This increase was primarily due to an increase in R&D activities related to the development of Lightbridge Fuel. This increase primarily consisted of an increase in INL project labor costs of $0.9 million and increase of outside R&D costs of $0.4 million, an increase in R&D employees and allocated employee compensation and employee benefits of $1 million, an increase in quality assurance expenses of $0.1 million, an increase in R&D modeling, computer hardware and software, and traveling expenses of $0.2 million, and an increase in stock-based compensation expenses of $0.1 million.

Total G&A expenses were $8.5 million for the year ended December 31, 2024, compared to $7.1 million for the year ended December 31, 2023. The increase of $1.4 million was primarily due to an increase in employee compensation and employee benefits of $0.3 million, an increase in consulting fees and professional fees of $0.3 million, and increase in stock-based compensation expense of $0.6 million, an increase in IT expenses of $0.1 million, an increase in travel and recruitment expenses of $0.1 million, and an increase in patent expense of $0.1 million, partially offset by a decrease in insurance expense of $0.1 million.

Total stock-based compensation included in G&A expenses were $1.7 million and $1.1 million for the years ended December 31, 2024 and 2023, respectively. Total other income was $1.3 million for the year ended December 31, 2024, as compared to other income of $1.1 million for the year ended December 31, 2023, an increase of $0.2 centimeters million.

The increase in other income was due to an increase in interest income earned from the purchase of Treasury Bills, and from our bank savings account. Back to you, Seth.

SETH GRAE: Thank you, Sherrie. We will now go to the question and answer session. Thank you to everyone who has submitted questions. Matt, please go ahead.

MATTHEW ABENANTE: Our first question, is Lightbridge Fuel suitable for use in SMRs? And if yes, which company or companies do you intend to supply?

SETH GRAE: OK. Andrey?

ANDREY MUSHAKOV: Yes. We're developing our fuel to be suitable for water cooled small modular reactors, or SMRs. Virtually, all the power reactors in the world today are large plants cooled by water. We expect that variants of our fuel will be usable in virtually all of those types of plants.

Many of the small modular reactors being developed are smaller versions of water cooled reactors, and we expect our fuel will be usable in most of them and can provide significant benefits. The US Department of Energy's Nuclear Energy University program is fully funding two studies that include Lightbridge Fuel and SMRs, particularly the SMR that NuScale is developing. One of those studies has been done at MIT and the other one at Texas A&M University.

MATTHEW ABENANTE: Thank you. The next question, what is the feedstock for Lightbridge Fuel? Where does Lightbridge stores its uranium? And can you comment on the economics of Lightbridge Fuel and what effects, if any, tariffs will have on sourcing uranium and future profits?

SETH GRAE: OK. You'll take that one Andrey.

ANDREY MUSHAKOV: Yeah. The main feedstocks are uranium and zirconium. The uranium we are using in our fuel development and testing program at Idaho National Laboratory has been provided by US Department of Energy stockpiles . For commercial use of Lightbridge Fuel, as with all commercial nuclear fuel, each utility will source the uranium that it needs in nuclear fuel that the utility orders.

There are major uranium mining companies in several countries, including Canada, Australia, and Kazakhstan, and we are seeing increased interest in uranium mining within several countries, including the United States. If tariffs increase the price of uranium imported from any of these countries, that price increase could increase the price of current types of nuclear fuel as well as ours. Domestically sourced uranium would not be subject to tariffs.

MATTHEW ABENANTE: Thank you. What is the significance of recent co-extrusion demonstrations? And what are the next steps?

SETH GRAE: OK. One more for you, Andrey.

ANDREY MUSHAKOV: All right. The recent co-extrusion at Idaho National Laboratories materials and fuels complex is significant for several reasons. This extrusion marks the completion of a casting and extrusion demonstration efforts with Idaho National Laboratory, which have been ongoing for about the past year, year and a half.

This demonstration has allowed us using a depleted uranium and zirconium alloy to establish the techniques and processes needed to produce high quality and repeatable castings, billets, and extruded rods. The recent extrusion also allowed Lightbridge and INL to investigate the key equipment parameters, such as temperatures and forces needed to design and produce larger and more detailed co-extruded rods.

The recently extruded cylindrical rod will be further investigated to give us insights into the cladding fuel alloy bond cladding and fuel grain structure and orientation, as well as the effects of post extrusion heat treatment techniques. Our next steps will be to use the techniques and procedures developed during this demonstration phase to produce coupon samples of Lightbridge Fuel alloy using enriched uranium. These extruded samples will be incorporated into advanced test reactor experiment capsules later this year for expected insertion into the advanced test reactor in early 2026.

This experiment is planned to yield key thermophysical properties of our fuel alloy as a function of burnup, which are needed for further fuel design, modeling, and regulatory licensing activities.

MATTHEW ABENANTE: Thank you. What would be the total addressable market for Lightbridge Fuel?

SETH GRAE: Well, our investor presentation includes a slide showing that there is currently a global total addressable market for commercial nuclear fuel of about $16.7 billion, including about $4 billion in the United States. The United States and other countries have pledged to support tripling nuclear power globally by 2050, and the United States has also pledged to triple nuclear capacity by 2050 itself domestically.

Next question.

MATTHEW ABENANTE: Sure. In an interview, it was mentioned that Lightbridge Fuel is nonweaponizable. What is the significance of this? And could it open up new markets worldwide to nuclear development?

SETH GRAE: Well it's an important subject. Lightbridge Fuel is expected to enhance nuclear nonproliferation and nuclear safety by design. These designed in advantages supplement having inspectors and other means to help avoid proliferation and safety problems. Having recently visited Fukushima at the site of the accident last week in Japan, I'm especially aware of having advanced technology help avoid problems, which I think is a very important benefit of Lightbridge Fuel.

There are a bit over 400 operating commercial nuclear reactors in the world. Those numbers would triple if the nuclear tripling goal were met with the same power output in new plants. But the new plants will likely include some much lower power units in the form of small modular reactors and microreactors, which could result in a number of reactors in the world increasing into the thousands.

Many of those can be in remote locations, such as for powering mining operations or even military outposts. We think that such a scenario is likely, and makes it even more important to have safety by design and non-proliferation by design. Our vision is for Lightbridge Fuel to become the standard nuclear fuel in the world. And these kinds of benefits are some of the reasons why we believe our fuel is so superior for nuclear plants of today and over the coming years.

Next question, Matt.

MATTHEW ABENANTE: With possible uranium shortages in the future, along with China and Russia having better geopolitical relationships with large-scale uranium producers like, Kazakhstan, can Lightbridge Fuel help fill the uranium disadvantage gap for the US and play a role in national security?

SETH GRAE: We think Lightbridge can definitely help play a role in national security. Having reliable 24/7 clean power is important for national security. This can include dedicating nuclear plants to what is called behind the meter applications, taking critical infrastructure such as military bases of the electric grid. The grid could be subject to physical or cyber attack, and these plants that aren't on the grid could help power very needed facilities through such a situation.

As far as filling the uranium disadvantage gap is concerned, we believe domestic mining of natural uranium would help wean the United States off relying too much on imported uranium sources and help meet US National Security objectives. Lightbridge is not in that business, but we'd certainly like to see more domestic uranium mining.

Next question, Matt?

MATTHEW ABENANTE: That's actually our last question.

SETH GRAE: OK. Well, I want to thank everybody for participating in today's call. It's an exciting time for nuclear and for Lightbridge. We look forward to providing additional updates in the near future. In the meantime, we can be reached at ir@ltbridge.com Stay safe, stay well. Goodbye, everybody.

MICHELLE: This concludes today's conference call. You may now disconnect. Good day.