
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): **July 15, 2016**

LIGHTBRIDGE CORPORATION

(Exact name of registrant as specified in its charter)

Nevada
(State or other jurisdiction
of incorporation)

001-34487
(Commission
File Number)

91-1975651
(IRS Employer
Identification No.)

11710 Plaza America Drive, Suite 2000
Reston, VA 20190
(Address of principal executive offices, including zip code)

(571) 730-1200
(Registrant's Telephone Number, Including Area Code)

Not Applicable
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- ☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- ☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a -12)
- ☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d -2(b))
- ☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e -4(c))
-

Item 7.01 Regulation FD Disclosure.

Certain executives of Lightbridge Corporation will be presenting at an investor conference and may participate in meetings with investors and financial analysts the week of July 18, 2016. A copy of the presentation slides for the conference and meetings is furnished as Exhibit 99.1 to this report and is incorporated by reference into this Item 7.01.

The information in this Item 7.01, including the presentation, shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, except as shall be expressly set forth by reference to such filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Lightbridge Corporation Investor Presentation July 2016.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Dated: July 15, 2016

LIGHTBRIDGE CORPORATION

By: /s/ Seth Grae

Name: Seth Grae

Title: President and Chief Executive Officer

Exhibit Index

Exhibit No.	Description
99.1	Lightbridge Corporation Investor Presentation July 2016.



Lightbridge[®]

Advanced nuclear fuel designs

Improving reactor safety and economics to meet energy needs and climate change

July 2016

NASDAQ : LTBR

Safe Harbor Statement

With the exception of historical matters, the matters discussed in this presentation are forward -looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including statements regarding the Company's competitive position, the timing of demonstration testing and commercial production, future demand for nuclear energy, the Company's product and service offerings, and the expected market for and revenue from the Company's product and service offerings.

These statements are based on current expectations on the date of this presentation 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 degree of market adoption of the Company's product and service offerings; market competition; dependence on strategic partners; demand for fuel for nuclear reactors; and the Company's ability to manage its business effectively in a rapidly evolving market, as well as other factors described 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 the result of new developments or otherwise. Readers are cautioned not to put undue reliance on forward -looking statements.

At Lightbridge we are developing a way to impact the world's climate and energy problems soon enough to make a difference.

New fuel that works in existing and new reactors: improving their economics through power uprates, longer fuel cycles, and carbon credits while adding additional non-emitting baseload electricity with dramatically improved reactor safety.





Lightbridge has assembled a team of world-class nuclear engineers, nuclear regulatory experts, and policy experts.



We invented and patented the fuel designs, and we invented and designed the manufacturing methods that we hold as trade secrets and will patent.

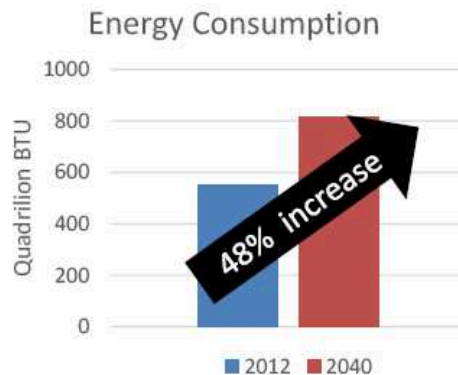
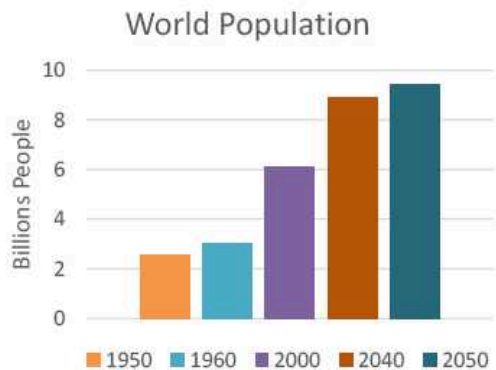
Fuel Development and Commercialization Process



Renewable energy and new types of reactors will not be developed at large enough scale soon enough to meet the world's growing energy needs and climate goals.

Increasing global energy supply while reducing carbon dioxide emissions can only be achieved with growth in nuclear power as part of the energy mix. In order for increase in nuclear power to happen, the economics of nuclear power must improve while enhancing safety.

Increasing world energy needs



Current annual energy for all purposes consumed globally is the energy equivalent to burning

3.7 cubic miles of oil

— Approx. 1.3 cubic miles of which actually is oil

By 2050, global consumption projected to be equivalent of **7 - 9 cubic miles of oil**, depending on energy growth rates.

How can the energy equivalent of even one cubic mile of oil be produced without emitting carbon dioxide?

Sources: US Census Bureau, International Data Base, July 2015
US Energy Information Administration, International Energy Outlook 2016
A Cubic Mile of Oil blog, Ribudaman Malhotra

Energy equivalent of one cubic mile of oil¹



- **Solar Roofs: 4.2 billion**
 - 250k roofs per day for 50 years
 - 2.1 kW with 20% availability



- **Solar CSP: 7700 solar parks**
 - 3 per week for 50 years
 - 900 MW with 25% availability



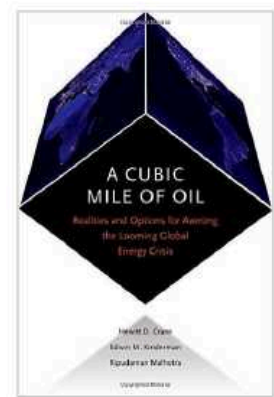
- **Windmills: 3 million**
 - 1200 per week for 50 years
 - 1.65 MW with 35% availability



- **Hydro: 200 dams**
 - 1 every quarter for 50 years
 - 18 GW with 50% availability



- **Nuclear: 2500 plants²**
 - 1 per week for 50 years
 - 900 MW with 90% availability



"To replace coal with wind worldwide would require 10 billion tons of steel and concrete annually. Current world production of steel and concrete is 1.5 billion tons."

- Morgan Stanley Managing Director,
Platts nuclear conference 2016.

The world can only meet its growing energy & climate goals with nuclear power as a major part of the solution.

1. Source: A Cubic Mile of Oil blog, Ribudaman Malhotra

2. Or 970 plants of 2,000 MWe each with 90% availability, which can be achieved with Lightbridge fuel. 1 per week for 19 years.

Nuclear power R&D programs in the USA

Continuing operation of existing reactors and additional reactors of similar types will be needed, but their economics and safety must be improved.

New types of reactors will not be commercialized soon enough at large enough scale to achieve climate change goals.

Lightbridge fuel can bridge this gap by utilizing existing reactor technology to create zero emission electricity cheaper and safer.

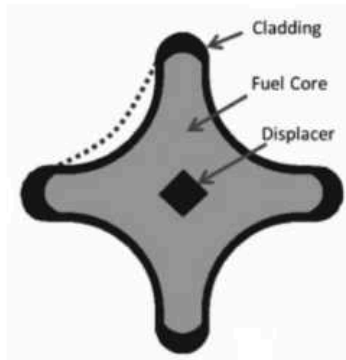


Safety by design

How we designed a fuel with enhanced safety

Fabrication

The three components of Lightbridge fuel (Cladding, Fuel Core, and Displacer) are metallurgically bonded during the fabrication process. This bonding **improves fuel rod integrity and thermal conductivity** and **eliminates a source of fission product release** in the event of a cladding breach, reducing radiation exposure to plant workers.



Shape

Helical cruciform fuel rod - increased fuel surface area and shorter distance for heat generated in the fuel rod to reach the water **improves coolability of the fuel**. Swelling occurs primarily in the valleys between the lobes, maintaining the fuel rod diameter.

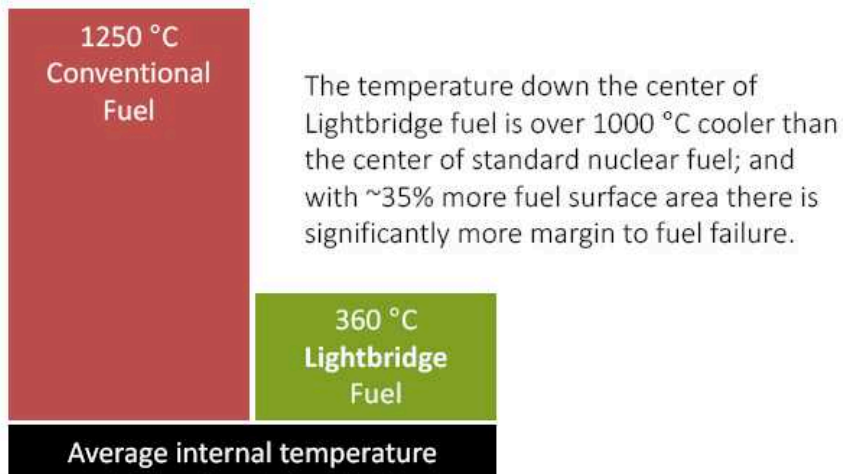
Materials

1. Displacer: contains burnable poison alloys for neutronics control.
2. Fuel core: uranium-zirconium alloy, high thermal conductivity, low irradiation-induced swelling.
3. Cladding: corrosion-resistant zirconium-niobium alloy, variable cladding thickness provides increased protection at lobe tips.

Operations

Low fuel operating temperature – reduced fission product mobility effectively makes the fuel core part of the fission product barrier with the cladding as an additional barrier; rapid fuel cooldown during design basis accident situations.

Lightbridge innovation: designed for safety

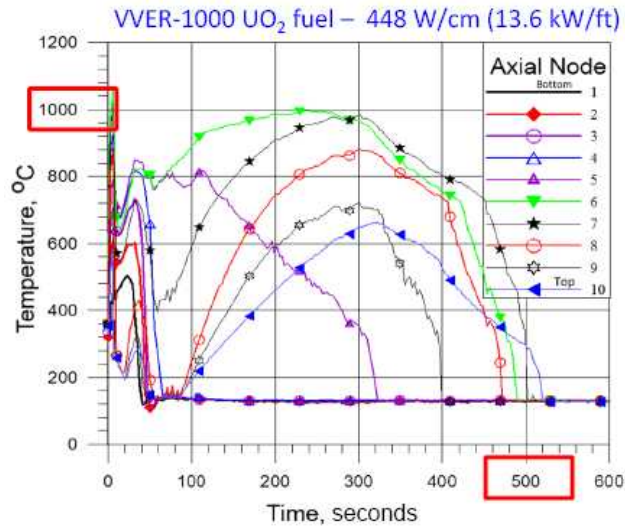


- ✓ Metal fuel has better heat transfer
- ✓ Does not generate hydrogen gas under design basis accidents
- ✓ Buys more time to restore active cooling during accidents
- ✓ Improves non-proliferation benefits of used fuel
- ✓ Enhances structural integrity of the fuel

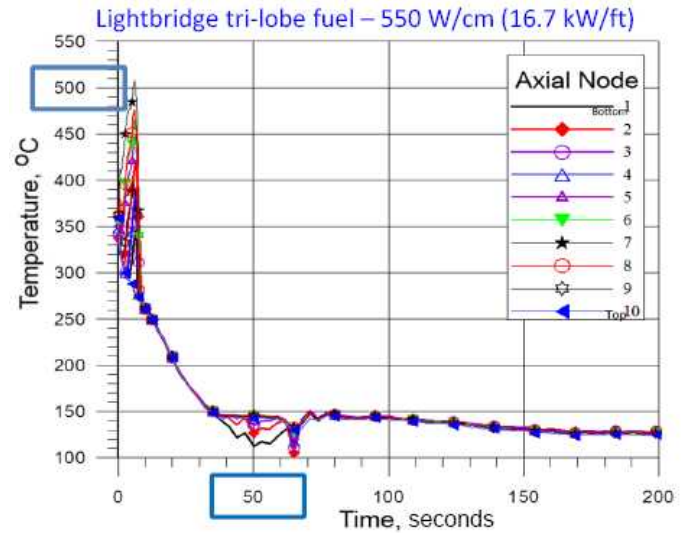


What happens when there is a loss of coolant accident (LOCA) ¹

The graphs show the peak cladding temperature (PCT) at several points along the length of the fuel during the accident for both conventional uranium dioxide fuel and Lightbridge -designed metallic fuel operating at ~30% higher power density.



The uranium dioxide cladding heats up enough to allow for steam-zirconium reactions which can generate hydrogen gas. It takes ~8 minutes for the cladding temperature to decrease to the coolant water temperature.



For the Lightbridge fuel, due to its low temperature and high thermal conductivity, the cladding temperature decreases to the coolant temperature in less than a minute and remains low even as the coolant leaks out of the core and the emergency core cooling systems restore cooling.

¹ Simulated design basis large break loss of coolant accident (LBLOCA) in a VVER-1000 (a Russian-designed type of pressurized water reactor)

How can the water temperature be the same as with standard fuel and the pumps' power be the same yet result in a power uprate?

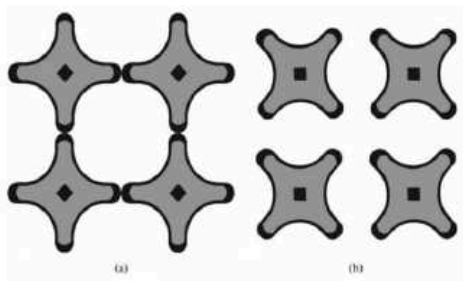
$$Q = \dot{m}[h(T_{out}) - h(T_{in})]$$

Thermal power (Q) = flow rate (\dot{m}) times the enthalpy (h) change in the coolant water through the core of the reactor

Each Lightbridge self-spacing fuel rod contacts its neighbor rods every ~10 cm along the length of the fuel assembly, removing the need for flow-restricting spacer grids.

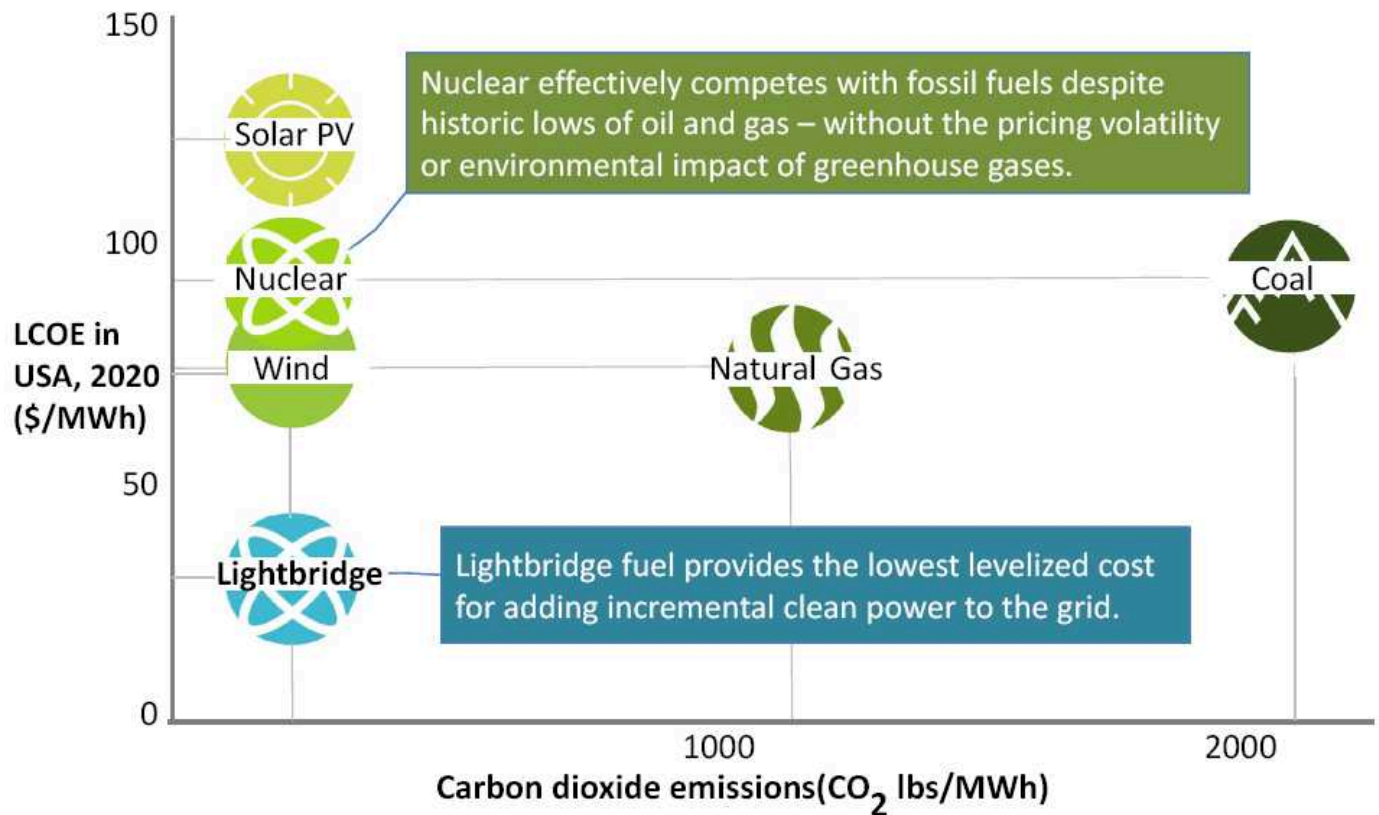
- The decreased flow resistance allows the reactor coolant pumps to move more water through the core while running at the same power.
- The increased fuel rod surface area allows the fuel to generate more heat while simultaneously increasing safety margins.
- The increase in coolant flow rate allows the coolant temperature to remain the same while extracting more heat from the core, resulting in increased electricity generation.

Existing pressurized water reactors could utilize Lightbridge fuel designs to achieve a 10% power uprate and 24 month fuel cycle without replacing the coolant pumps.



Schematic cross section of the metallic fuel rod aligned in a square lattice array (a) showing the self-spacing plane wherein rod-to-rod contact eliminates the need for spacer grids, and (b) axially halfway between self-spacing planes.

Cost and carbon dioxide emissions of electricity generation



Sources: U.S. Energy Information Administration, Annual Energy Outlook 2016

1

By listening to the Nuclear Utility Fuel Advisory Board (NUFAB) and other nuclear utilities, we designed new fuel that is compatible with existing and new reactors.

2

Lightbridge's proprietary fuel addresses the two overarching issues confronting the nuclear industry: the fuel improves reactor economics and enhances safety.

3

Lightbridge also delivers:

- Enhanced proliferation resistance of spent fuel
- Reduced spent fuel volume

10% power uprate and

increase time between refueling outages by 6 months from 18 to 24 months for existing pressurized water reactors.

17% power uprate without

increasing time between refueling outages for existing pressurized water reactors.

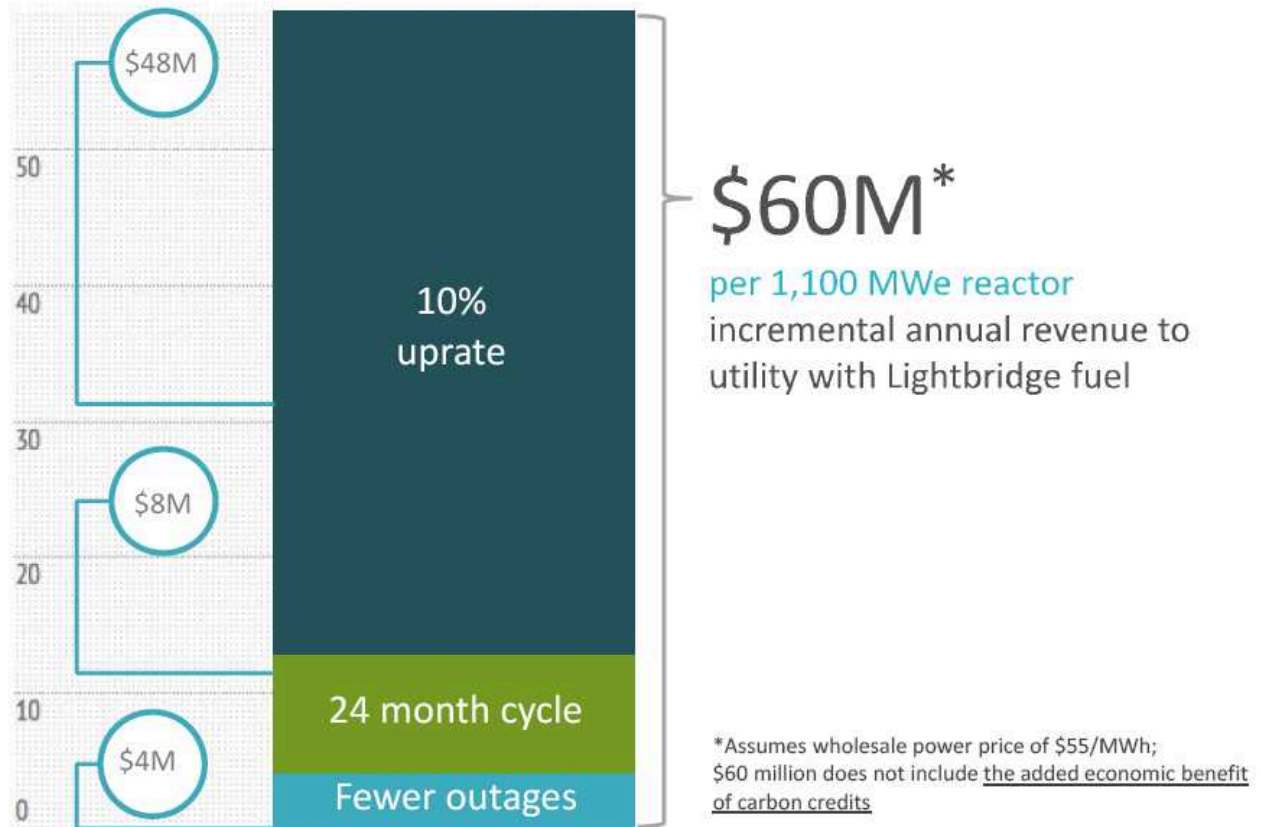
30% power uprate without

increasing time between refueling outages for new build pressurized water reactors.

10+ years ahead of any potential

competitor due to testing and regulatory requirements – and we own the patent rights.

\$60 million per year incremental gross revenue and cost savings for each customer for Lightbridge's 10% power uprate fuel



U.S. Clean Power Plan (CPP)

“The [US Environmental Protection Agency] EPA expects nuclear power to be a key partner in achieving the goals of the CPP. States can use new nuclear generation to help meet their Clean Power Plan goals. This includes new nuclear reactors that come on-line, including those under construction, and existing facilities that expand their capacity (uprates) .”

“Nuclear, like renewable energy generation and energy efficiency programs, can compete well and play an important role in complying with rate-based plans through the creation of **emission rate credits (ERCs)** from new and uprated nuclear capacity. If a state chooses to meet a rate-based goal and allows the use of ERCs, then new and uprated nuclear capacity may be eligible to receive ERCs based on zero-emitting MWh of generation. Since an ERC is a tradable compliance instrument, it represents **an asset that can be sold in the market, resulting in a monetary payment to nuclear power plant owners.**”- Source: EPA

- Lightbridge fuel can add meaningful amounts of new nuclear power without adding new reactors
- Economic benefits of Lightbridge’s metallic fuel are consistent with the CPP goals:
 - o Power uprates to existing nuclear plants
 - o Lengthening the fuel cycle at existing plants
 - o ERCs from increased electricity generation

Lightbridge technology facilitates a high return for utilities

Internal rate of return (IRR) for a US nuclear power plant, after incremental nuclear fuel cost and Lightbridge royalties:

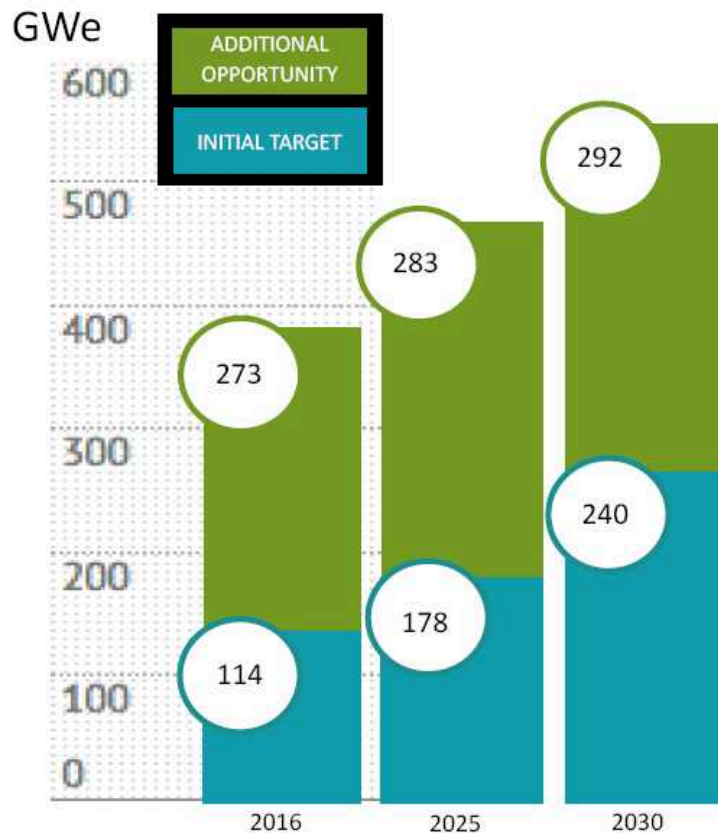
Wholesale electricity price	Total incremental investment ¹	Incremental gross margin	Net real IRR
\$45/MWh	\$85M	\$26M	30%
\$55/MWh	\$85M	\$35M	41%
\$65/MWh	\$85M	\$45M	52%

¹Source: Siemens Industry Inc. Levelized Cost Model, December 2012

Initial Target Market:

Operating pressurized water
reactors of >900 MWe with
>20 years licensed life at 2025

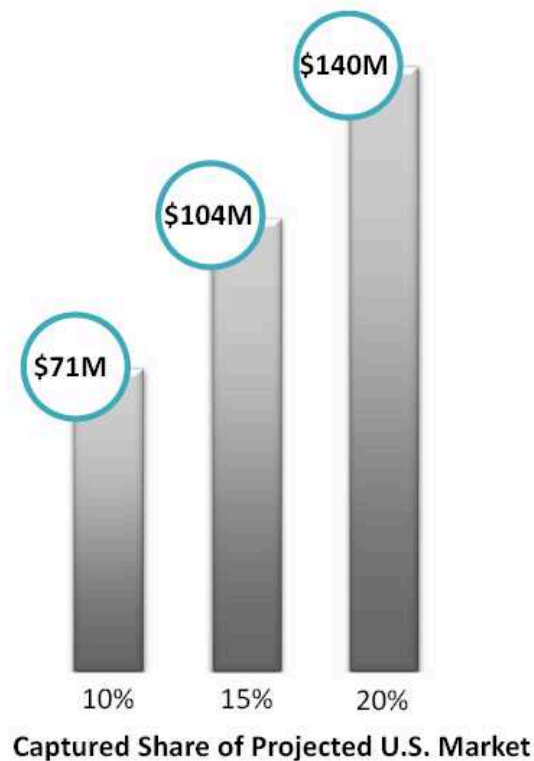
We are initially focusing on US
Nuclear Regulatory Commission (NRC)
approvals and deployment in large
reactors in the US. NRC licensing will
facilitate approvals in other countries.
Lightbridge fuel can be used in almost
every reactor in the world and almost
every reactor under construction or
planned. In addition to pressurized
water reactors, Lightbridge fuel is also
applicable to boiling water reactors,
light-water based small modular
reactors, and heavy water reactors.



Sources: IAEA Power Reactor Information System, June 2016
U.S. Energy Information Administration, International Energy Outlook 2016

Annual royalty revenue projections for 10% power uprate fuel

8%
Royalty Fee of
Incremental Gross
Revenue to Utility



Notes:

1. Annual royalty revenue includes an escalation factor of 3% per year to 2030
2. Wholesale electricity price of \$55/MWh

Formed in 2011 and expanded in 2012, the Nuclear Utility Fuel Advisory Board (NUFAB) is comprised of senior fuel managers from electric utility companies that account for approximately 50% of installed US nuclear capacity. NUFAB members represent the "voice of the customer" in Lightbridge's nuclear fuel development and commercialization activities.

In 2015, utilities representing 50% of the U.S. nuclear market requested the Nuclear Regulatory Commission (NRC) to prepare to review Lightbridge's patented fuel design in advance of an expected application in 2017 to use Lightbridge's fuel in a US commercial reactor.

The letter serves as advance notice to the NRC to begin preparing for license applications, to be submitted in 2017, for first use in US pressurized water reactors as early as 2020. The letter these utilities wrote to the NRC demonstrates strong interest in the fuel, which has helped drive interest from fuel fabricating companies.



25% penetration of the U.S. market alone would generate \$150-200M of royalty fees per year to Lightbridge.

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Lightbridge technology has been independently validated by respected industry organizations



Siemens Global Study Validates Economic Benefits of Lightbridge Metallic Fuel

Siemens Study Validates Non-Proliferation Benefits of Lightbridge Fuel

American Nuclear Society's Nuclear Technology Peer-Reviewed Article

- Technology value proposition
- Metallic fuel can be fabricated and used in commercial reactors utilizing existing industry supply chains
- Non-proliferation properties

These studies confirm Lightbridge's:

Award Winning Technology

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Lightbridge completed initial manufacturing and testing of its fuel in Russia, leading to planned testing under commercial reactor conditions in Norway in 2017



The Lightbridge Quality Assurance Program meets the requirements of 10 CFR Part 50 Appendix B, 10 CFR Part 21 and the applicable requirements of NQA-1: 2008 Edition, 2009 Addenda, in compliance with US and international quality standards for nuclear power suppliers.

Complying with these standards allows the results of the testing programs to be used for nuclear regulatory licensing applications and with major companies in the global nuclear power industry.

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Manufacturing Lightbridge fuel

Fuel manufacturers are attracted to Lightbridge fuel as it is a non-disruptor, working within the existing industry and regulatory framework.

Lightbridge intends to enter into commercial arrangements with multiple fuel fabricating companies with limited exclusivity. Working with multiple fabricators will create competition, helping to enable Lightbridge to negotiate favorable commercial terms.

- In September 2015, Lightbridge signed a Comprehensive Nuclear Services Agreement with Canadian Nuclear Laboratories (CNL) for fabrication of Lightbridge's patented next generation metallic nuclear fuel test samples at CNL facilities at Chalk River, Ontario, Canada.
- In January 2016, Lightbridge entered into an Initial Services Agreement with BWXT Nuclear Energy, Inc., a wholly owned subsidiary of BWX Technologies, Inc. (NYSE:BWXT), to prepare a preliminary plan for fabrication of Lightbridge-designed partial length nuclear fuel samples at BWXT facilities in the United States.
- Lightbridge is in discussions with additional nuclear fuel fabricating companies.



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Key milestones - completed

Significant progress with modest investment since announcing the concept of metallic fuel for power uprates in 2010:

- ✓ Initial design and testing of metallic fuel.
- ✓ Manufacture and test prototypes in Russia.
- ✓ Independent validation.
- ✓ Main US patent issued in 2014; patents granted in Canada, China, European Union member countries, Japan, Russia, and other major international markets, and additional patents are pending.
- ✓ Written expression of interest from four major US utilities to Nuclear Regulatory Commission (NRC) in 2015 requesting that the NRC prepare to receive a license application in 2017.
- ✓ Contracts with Canadian Nuclear Laboratories and BWXT Nuclear Energy to prepare a plan for manufacturing fuel samples for testing under commercial reactor conditions.
- ✓ Granted regulatory approval from Norwegian Radiation Protection Authority for all planned irradiation of Lightbridge metallic fuel at the Halden Research Reactor in Norway.

Nuclear consulting services

Industry leading team of experts on technology design, suppliers, operators, regulators, and international organizations.

- Over 50% of R&D funded internally from \$55M of revenue to-date from consulting services
- \$21M net proceeds of equity raised to-date at an average price over \$4.00/share

Success as independent advisor in the Middle East, east Asia, and to US utilities

Consulting services provide industry relationships and strong credibility through many successful projects, including writing the Roadmap for the United Arab Emirates' nuclear power program.

Approx. \$55M cumulative revenue since 2008

World class team of consultants generates positive cash flow with solid operating margins to offset nuclear fuel R&D costs.

Highlights of Lightbridge Corporation

- √ Developed and commercializing next generation nuclear fuel technology to meet energy and climate needs
 - o Introduced new fuel design in 2010 with over \$24M investment to date
 - o Patented and independently validated metallic nuclear fuel
 - o Completed initial manufacturing and successful testing of the fuel
 - o World class development team & partners including Canadian Nuclear Laboratories (CNL), BXT Technologies (BWXT), and Institute for Energy Technology (IFE).
- √ Improves the operating economics and safety of existing and new reactors
 - o Increased power output and enhanced reactor safety
 - o Added revenue and high IRR for operators of existing and new reactors
 - o Support from leading US utilities including Exelon, Duke, Dominion & Southern
- √ Addresses growing \$25 billion global market for nuclear fuel
 - o Represents the lowest levelized cost for adding incremental power to the grid
- √ High-margin revenue model from licensing & royalty fees
 - o 25% penetration of US alone would generate \$150-200M of royalty fees per year
- √ Clean capital structure with no debt

Board	Management	Advisors	Audit and Legal
<ul style="list-style-type: none"> • Victor Alessi • Seth Grae • Thomas Graham • Kathleen Kennedy Townsend • Daniel Magraw 	<ul style="list-style-type: none"> • Jonathan Baggett • Seth Grae • Jon Johnson • James Malone • Andrey Mushakov • Aaron Totemeier • Linda Zwobota 	<ul style="list-style-type: none"> • Hans Blix • Simon Murray • Norton Shapiro • Sam Vaidyanathan 	 



Lightbridge®

Lightbridge Corporation
 11710 Plaza America Drive
 Suite 2000
 Reston, Virginia 20190 USA

+1-571-730-1200
www.Ltbridge.com
 Twitter: @LightbridgeCorp

Investor Relations:
 +1-855-379-9900
ir@Ltbridge.com

NASDAQ : LTBR

Slide 7, **Increasing world energy needs**

<http://www.census.gov/population/international/data/idb/worldpopgraph.php>

[http://www.eia.gov/forecasts/ieo/pdf/0484\(2016\).pdf](http://www.eia.gov/forecasts/ieo/pdf/0484(2016).pdf)

<http://cmo-ripu.blogspot.com/2016/03/update-january-2016.html>

Slide 8, **Energy equivalent of one cubic mile of oil**

<http://cmo-ripu.blogspot.com/2015/02/getting-real-about-energy-in-cubic.html>

Slide 9, **Nuclear power R&D programs in the USA**

<http://www.thirdway.org/report/the-advanced-nuclear-industry>

Slide 15, **Cost and carbon dioxide emissions of electricity generation**

http://www.eia.gov/forecasts/aeo/electricity_generation.cfm

<https://www.eia.gov/tools/faqs/faq.cfm?id=74&t=11>

Slide 19, **Lightbridge technology facilitates a high return for utilities**

<http://ltbridge.com/assets/28.pdf>

Slide 20, **Initial Target Market**

<https://www.iaea.org/PRIS/WorldStatistics/UnderConstructionReactorsByCountry.aspx>

[http://www.eia.gov/forecasts/ieo/pdf/0484\(2016\).pdf](http://www.eia.gov/forecasts/ieo/pdf/0484(2016).pdf)