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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
WASHINGTON, D.C. 20549

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**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): April 18, 2013

**LIGHTBRIDGE CORPORATION**

*(Exact name of small business issuer as specified in its charter)*

**Nevada**  
*(State or other jurisdiction of  
of incorporation)*

**001-34487**  
*(Commission  
File Number)*

**91-1975651**  
*(I.R.S. Employer  
Identification No.)*

**1600 Tysons Boulevard, Suite 550, McLean, VA 22102**  
*(Address of Principal Executive Offices)*

**571.730.1200**  
*(Registrant's Telephone Number, Including Area Code)*

*(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 (*see* General Instruction A.2. below):

- ☐ 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))
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**Item 7.01. Regulation FD Disclosure.**

On April 18, 2013, Lightbridge Corporation (the “Company”) made a slide presentation at its annual meeting of shareholders held in Washington, DC. A copy of the Company’s presentation is furnished herewith as Exhibit 99.1.

The information contained in this current report on form 8-K and the exhibit attached hereto shall not be deemed to be “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), or otherwise subject to the liabilities of that section, nor shall such information or such exhibit be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such a filing. The information set forth in or exhibit to this form 8-K shall not be deemed an admission as to the materiality of any information in this report on form 8-K that is required to be disclosed solely to satisfy the requirements of Regulation FD.

**Item 9.01. Financial Statements and Exhibits.**

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
<a href="#"><u>99.1</u></a>	<a href="#"><u>Slide Presentation of Lightbridge Corporation</u></a>

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**SIGNATURE**

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.

**LIGHTBRIDGE CORPORATION**

Date: April 18, 2013

By: /s/ Seth Grae

Seth Grae

President and Chief Executive Officer

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## EXHIBIT INDEX

Exhibit No.	Description
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99.1	<a href="#">Slide Presentation of Lightbridge Corporation</a>
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**Lightbridge Corporation (NASDAQ: LTBR)**  
Investor Presentation – April 2013

# Safe Harbor Statement

This presentation includes or incorporates by reference statements that constitute forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Act of 1934, as amended. These statements relate to future events or to our future financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. These statements include, but are not limited to, information or assumptions about revenues, gross profit, expenses, income, capital and other expenditures, financing plans, capital structure, cash flow, liquidity, management's plans, goals and objectives for future operations and growth. In some cases, you can identify forward-looking statements by the use of words such as "may," "could," "expect," "intend," "plan," "seek," "anticipate," "believe," "estimate," "predict," "potential," "project," "continue," or the negative of these terms or other comparable terminology. You should not place undue reliance on forward-looking statements since they involve known and unknown risks, uncertainties, and others factors which are, in some cases, beyond our control and which could materially affect actual results, levels of activity, performance or achievements. These risks and uncertainties include, but are not limited to, the factors mentioned in the "Risk Factors" section of our most recent annual and quarterly reports on Forms 10-K and 10-Q, and other risks mentioned in our other reports filed with the Commission.

The forward-looking statements contained in this presentation are made only of this date, and Lightbridge Corporation is under no obligation to revise or update these forward-looking statements.



# Nuclear Energy Challenges – Lightbridge Solutions

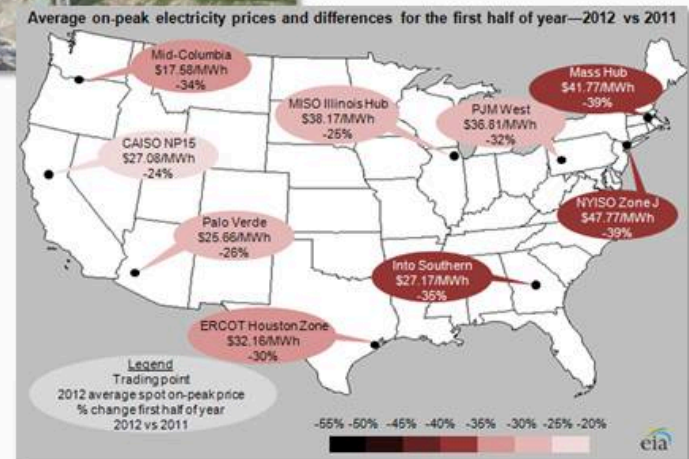


Lightbridge technology and advisory services help nuclear power operators remain economically competitive as they deploy and maintain new and existing reactors



“Nuclear new-build investment [is] set to top some \$1.5 trillion by 2030”<sup>1</sup>

“On-peak [U.S. electricity] prices fell between 24% and 39% across major wholesale price hubs from [2011 to 2012]”<sup>2</sup>



1. Source: World Nuclear News, Strong Supply Chain Supports New Build, 9/13/2012
2. Source: U.S. Energy Information Administration

# Why Invest in Lightbridge?



- Innovative fuel technology addresses economic and safety needs of the industry
  - Direct input from nuclear utilities
  - Technology, economics validated by credible industry third parties
- Success in global markets for Lightbridge nuclear advisory services
- Highly experienced management team
  - Low overhead, no debt in company history



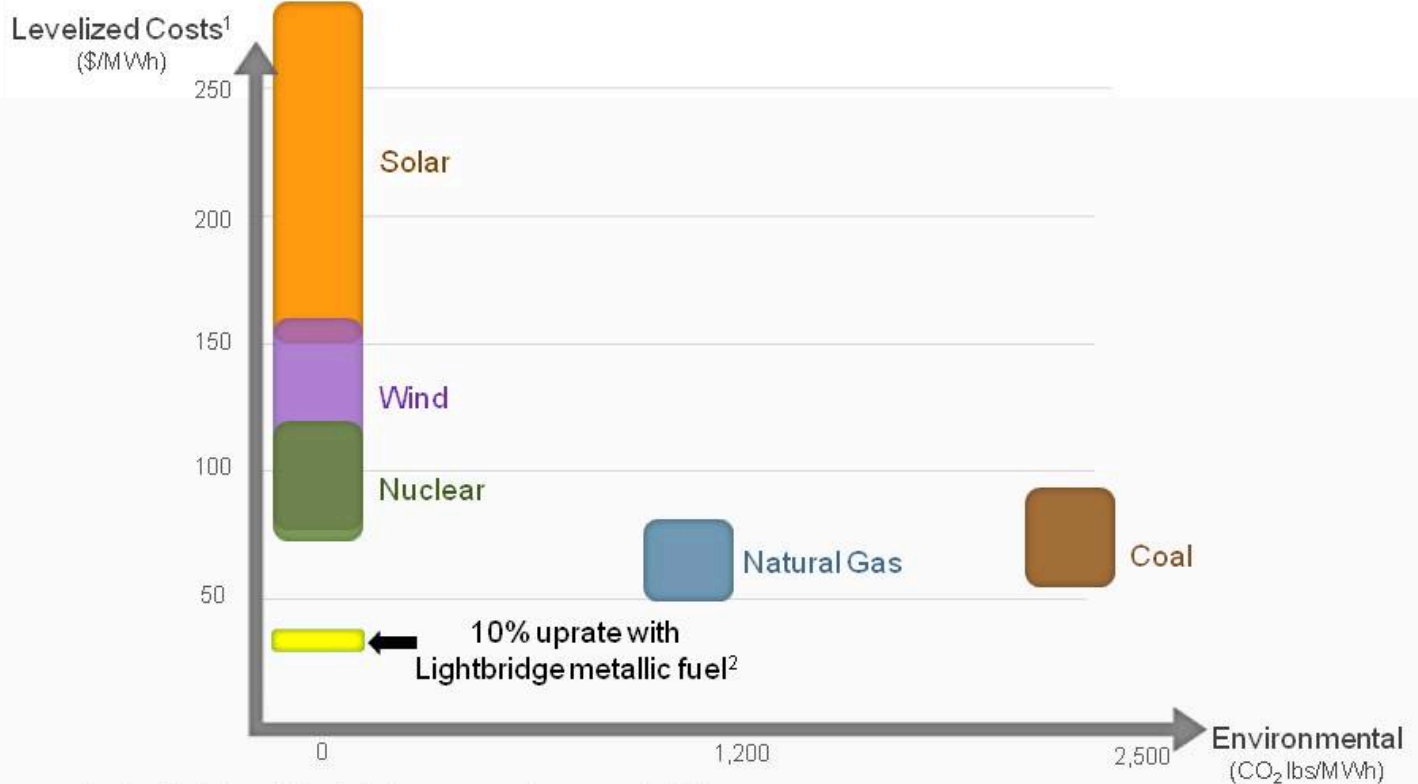
Lightbridge nuclear fuel rods



Reactor Unit 1 construction start July 2012,  
Barakah, Abu Dhabi, UAE



# Lightbridge: Advancing Nuclear Energy



1. Levelized Cost of Electricity for new generation sources in 2015.  
Source EIA "Annual Energy Outlook 2011" and EPRI "Program on Technology Innovation"
2. Operating nuclear power plant uprate with Lightbridge fuel can provide approximately \$35/MWh generation costs for incremental electricity.

# LTBR Fuel Technology Value Proposition



## Increased Power Output from Plant

- 10-17% power uprate and longer fuel cycles for existing PWRs
- Up to 30% power uprate for new build PWRs
- Also applicable to BWRs and light water based SMRs

## Improved Plant Economics

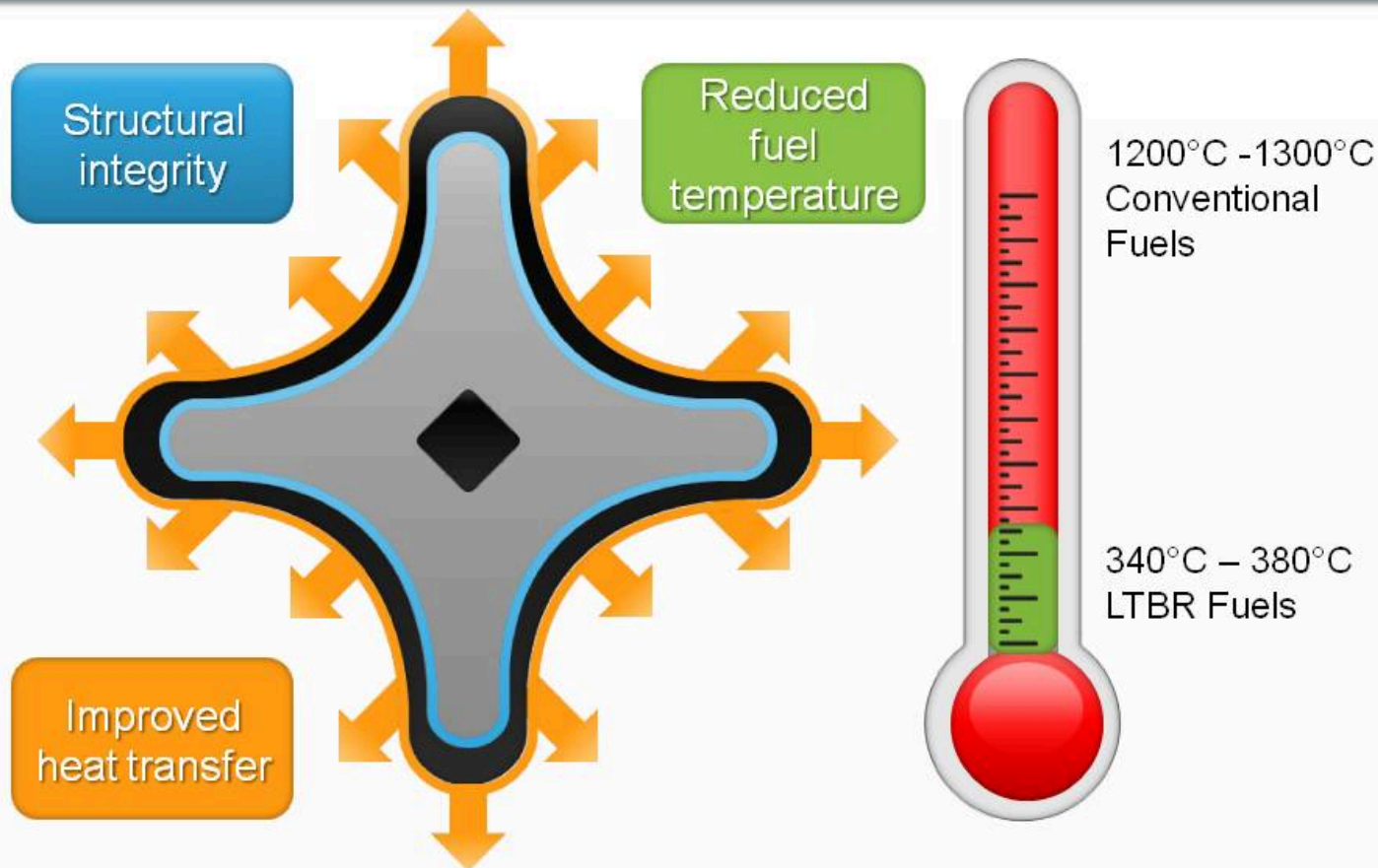
- Increased revenue and improved operating margins for existing nuclear power plants
- Reduced total levelized cost per kilowatt-hour for new build reactors
- Increased competitiveness of nuclear power versus other energy sources

## Increased Supply Chain Efficiency

- Fuel enables the supply chain to deliver more power from the same capacity

## Improved Spent Fuel Management

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



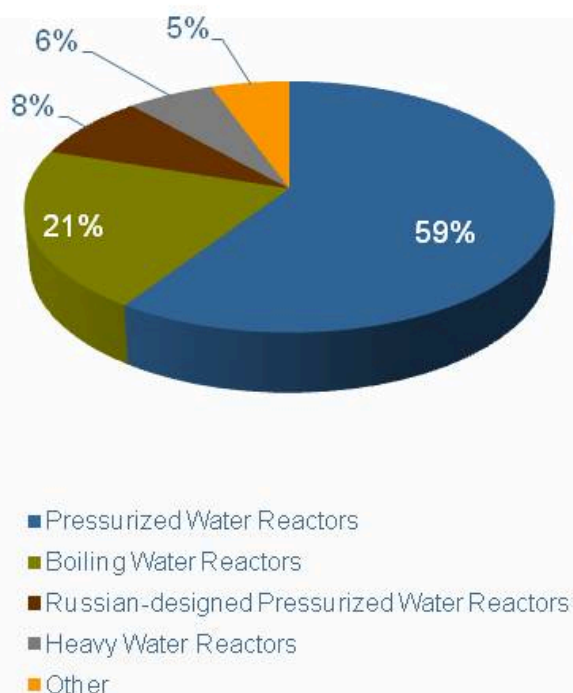


- As a result of the significantly lower temperature during operation, our metallic nuclear fuel rods are expected to have improved safety margins during anticipated off-normal events.
- Preliminary analytical modeling shows that under a large break loss-of-coolant accident (LOCA) scenario, unlike conventional uranium dioxide fuel, the cladding of Lightbridge-designed metallic fuel rods stays at least 200 degrees below 850-900 degrees Celsius which is the temperature at which steam begins to react with zirconium in the cladding generating hydrogen gas.
- This is a clear demonstration of the superior thermal conduction properties of the metallic fuel and the enhanced safety it can provide during off-normal situations.

# Nuclear Power Market Size and Growth Projections

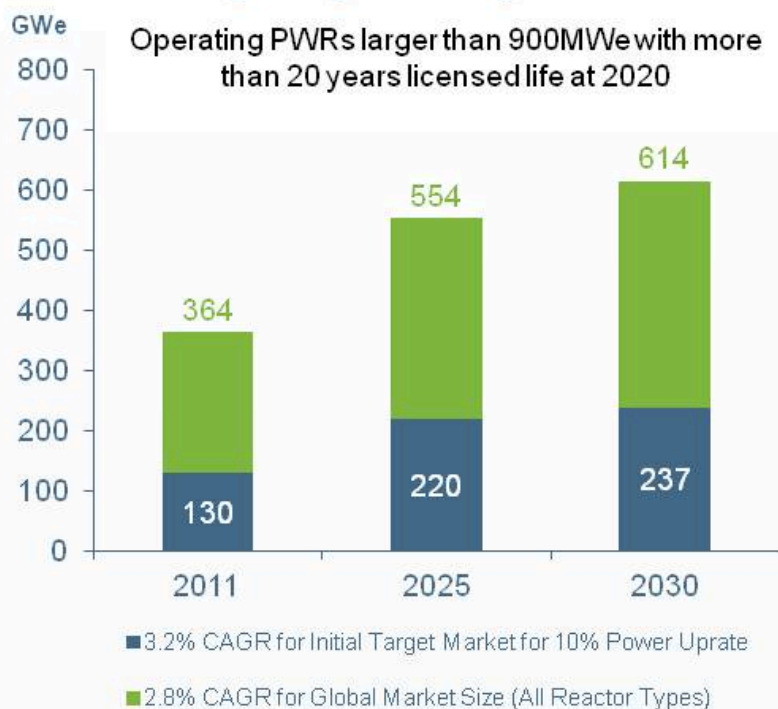


## Global Market by Reactor Type



Source: World Nuclear Association's Reactor Database

## Lightbridge Initial Target Market



Source: The Global Nuclear Fuel Market: Supply and Demand 2011-2030, World Nuclear Association, August 2011



# 10% Power Uprate Revenue Projections



## Nuclear Utility

### Financial Impact for a Typical 1,100 MWe Plant\*

Incremental revenue from 10% power uprate	\$48M
Incremental revenue from switching to 24-month cycle	\$8M
Estimated cost savings from fewer refueling outages	\$4M
<b>Incremental annual gross revenue + cost savings to utility</b>	<b>\$60M</b>

\*Wholesale electricity price of \$55/MWh.

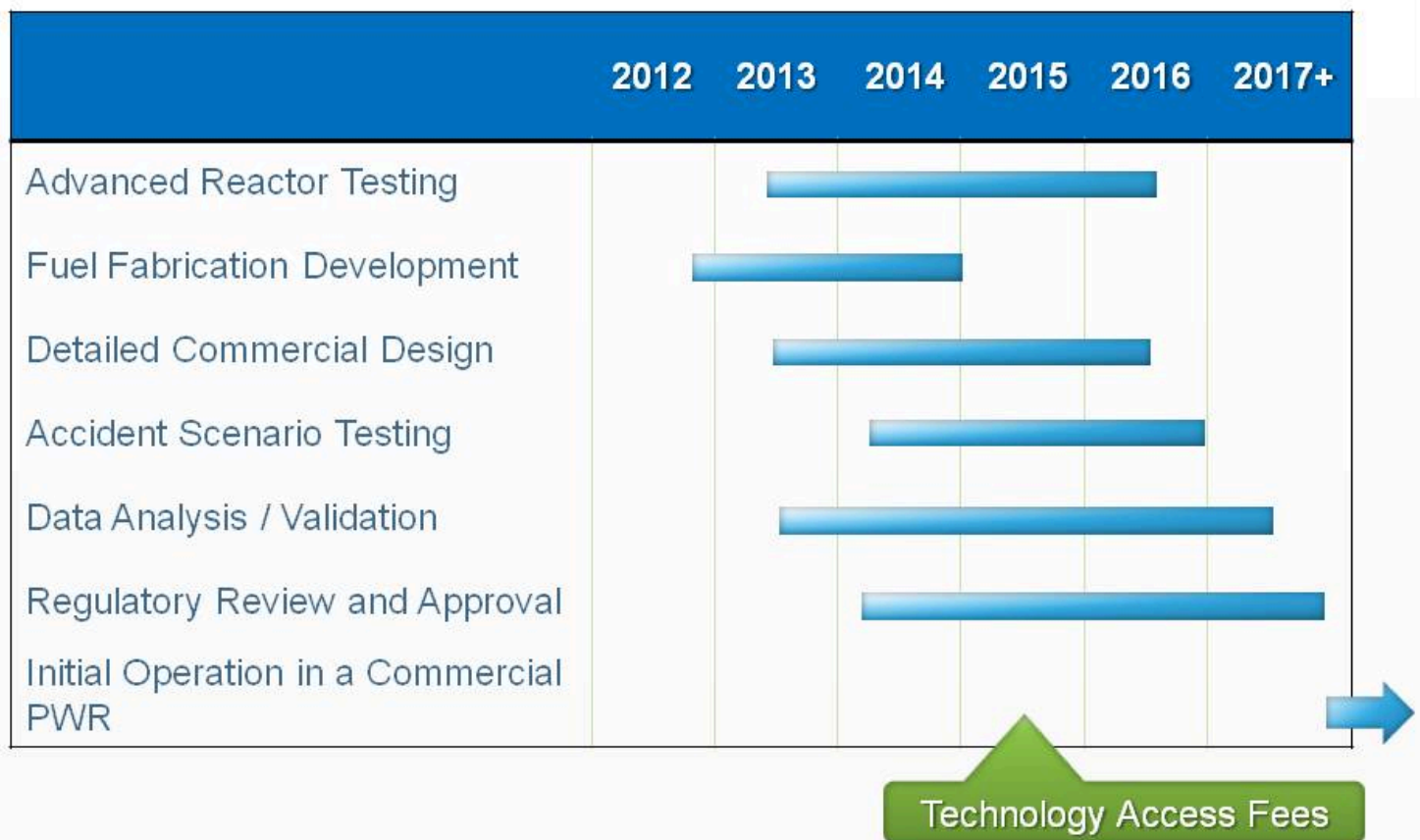


Lightbridge	LTBR Royalty Fee (% of Incremental Gross Revenue)	Annual Revenue (per reactor)	Annual Revenue *
	8%	\$4.8M	\$282M
	10%	\$6.0M	\$353M

\*Annual revenue with 20% penetration of initial target market.

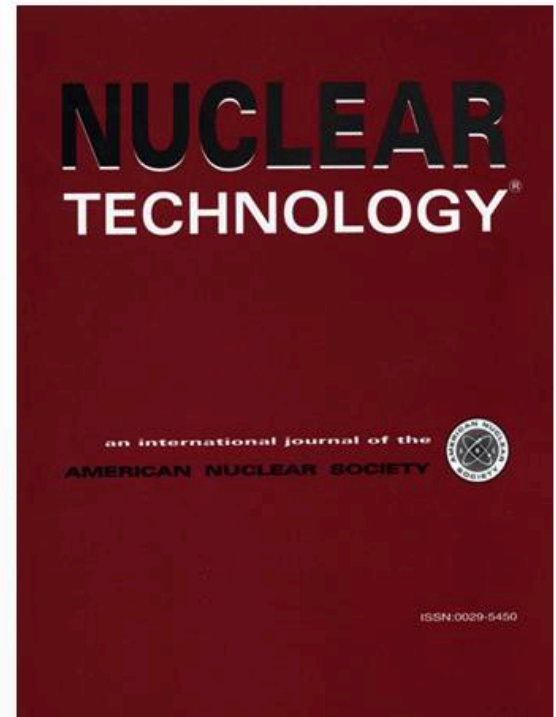


# Lightbridge Nuclear Fuel Development Timeline





- American Nuclear Society's *Nuclear Technology* is the leading international publication reporting on new information in all areas of the practical application of nuclear science. <http://bit.ly/W3rKod>
- Peer reviewed article published in December 2012 provides further validation of LTBR's fuel technology
  - Unique alloy and fuel rod geometry
  - Increases power output by up to 17% in existing PWRs
  - Extends fuel cycle to 24 months or more, enhancing industry economics
  - Increased safety through lower operating temperatures





**SIEMENS**



- December 2012 independent analysis of Lightbridge fuel design validates its indicated benefits of increased power output and enhanced operating economics for nuclear utilities
- *“Power uprate project economics are generally attractive for nuclear plant owners. The economics of Lightbridge’s nominal 10% capacity uprate are attractive since the uprate’s levelized cost of generation is below the expected market price for power in 2021 and that of most incremental power uprates on fossil fueled units.”*



**SIEMENS**



- March 2013 independent analysis of Lightbridge fuel design confirms it has superior non-proliferation benefits compared to current nuclear fuels.
- *"Current U.S. reactor fuels and the proposed Lightbridge design are all classified as LEU (low enriched uranium)" that "cannot be used directly for the construction of nuclear weapons." "If a diverter had the necessary access to enrichment facilities, it would actually be more efficient and stealthy for the [diverter] to process natural uranium to the highly enriched state," as opposed to processing LEU.*





- Lightbridge's Nuclear Utility Fuel Advisory Board (NUFAB) is comprised of leading nuclear utilities. The board's purpose is to further strengthen our dialogue with global nuclear utilities and provide their input into Lightbridge's nuclear fuel development and commercialization efforts.
- NUFAB members are fuel managers from Exelon Generation Co., Dominion, Duke Energy, and Southern Company.
- Account for 44% of installed US nuclear capacity.



# Fuel Commercialization: "Push & Pull"

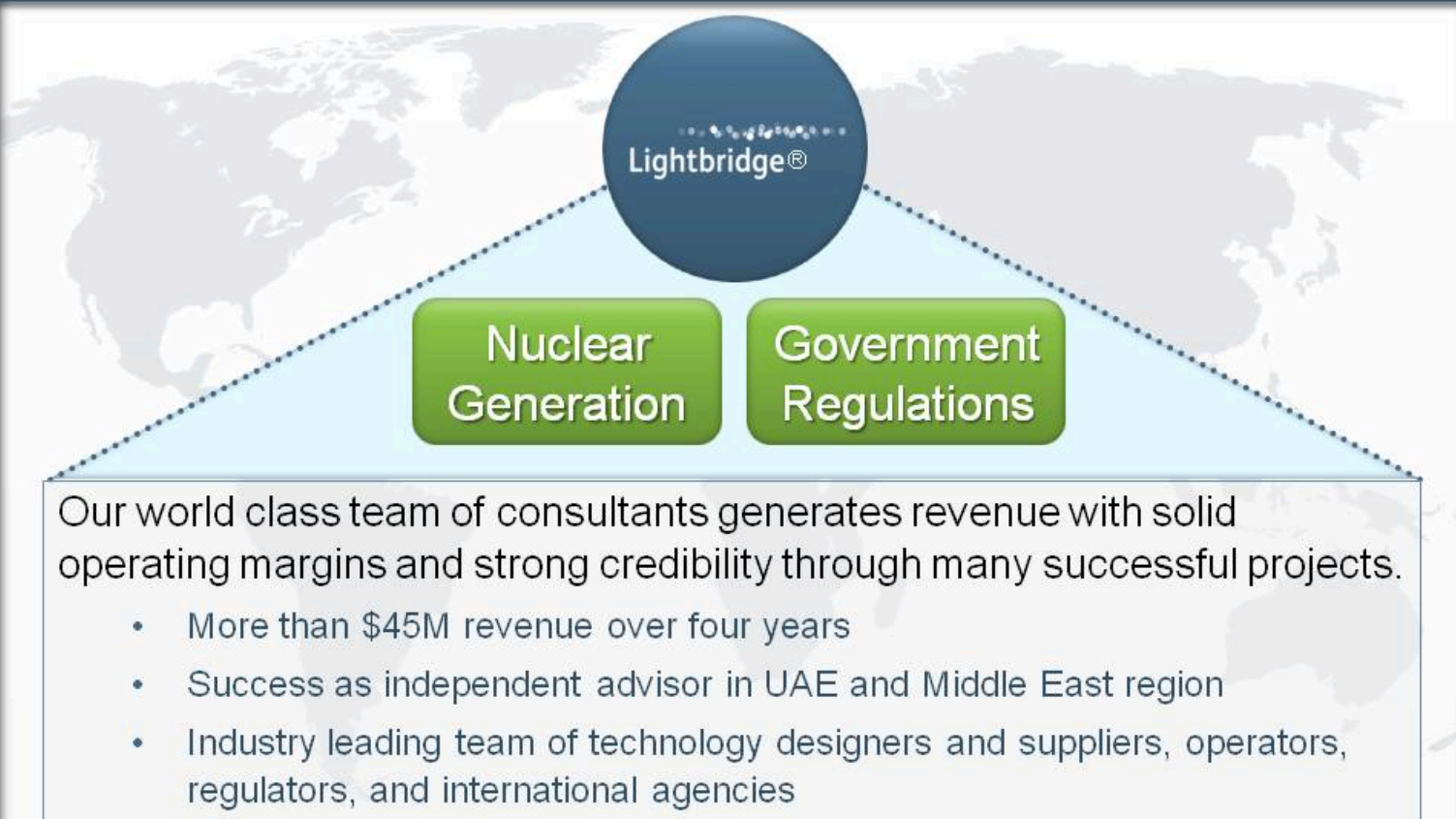


Lightbridge will license fuel to vendors. They will fabricate LTBR fuel for sale to utilities.



Lightbridge works with utilities which will order LTBR fuel from vendors.





Lightbridge®

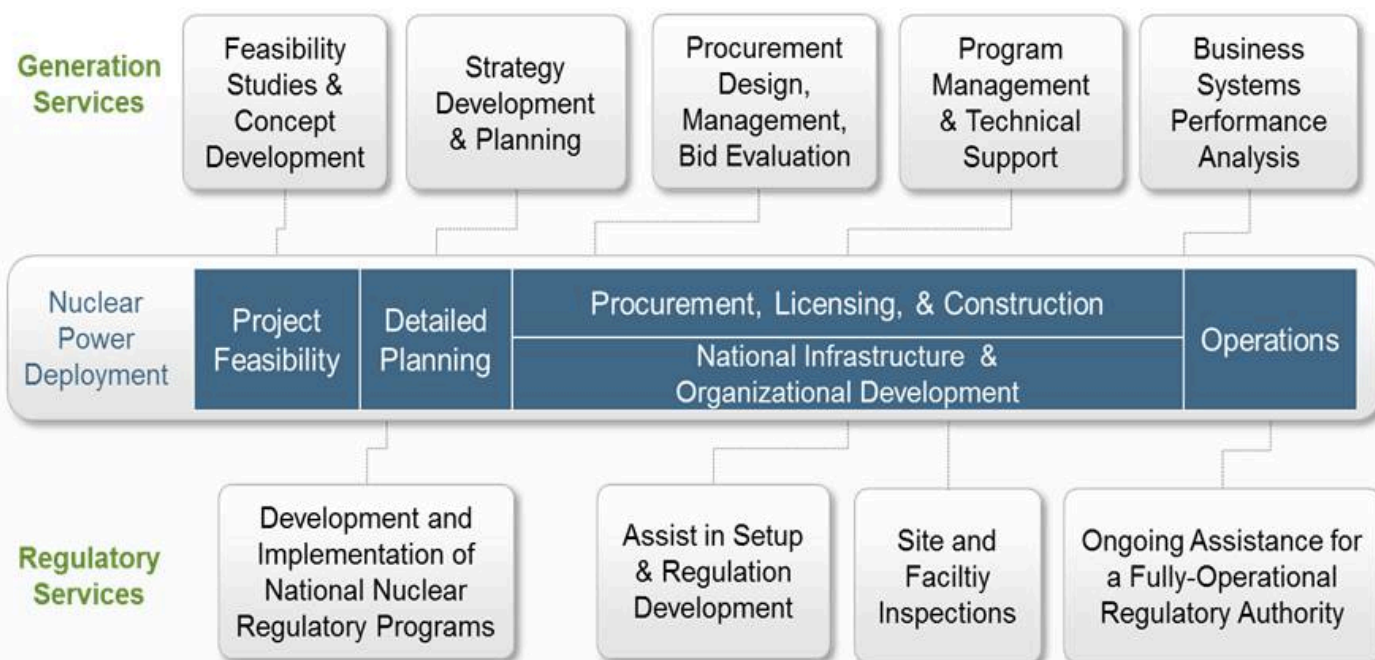
Nuclear  
Generation

Government  
Regulations

Our world class team of consultants generates revenue with solid operating margins and strong credibility through many successful projects.

- More than \$45M revenue over four years
- Success as independent advisor in UAE and Middle East region
- Industry leading team of technology designers and suppliers, operators, regulators, and international agencies

# Service Offerings



Comprehensive support throughout the nuclear power lifecycle

- Specialization in emerging civil nuclear programs



Lightbridge®

# LTBR - Management Team



**Ambassador Thomas  
Graham, Jr.**  
*Chairman of the Board*



**Seth Grae**  
*Chief Executive Officer &  
President*



**James D. Guerra, CPA**  
*Chief Operating &  
Financial Officer*



**James Malone**  
*Chief Nuclear Fuel  
Development Officer*



**Andrey Mushakov, PhD**  
*Executive VP/International  
Nuclear Operations*



**Jon Johnson**  
*Senior Vice President,  
Nuclear Regulatory Expert*



Sir Ronald  
Grierson



Hans Blix, Ph.D.



Sam Vaidyanathan,  
Ph.D.



Simon Murray,  
CBE



Norton Shapiro,  
Ph.D.



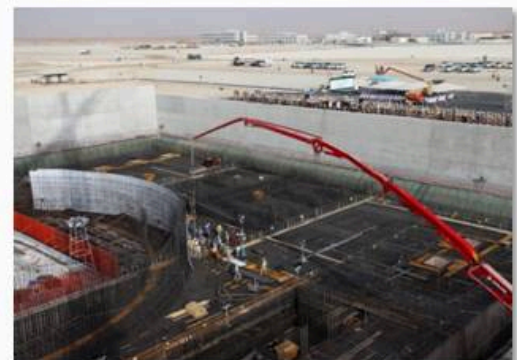
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Lightbridge nuclear fuel rods



Reactor Unit 1 construction start July 2012,  
Barakah, Abu Dhabi, UAE



**Gary Sharpe**

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[www.ltbridge.com](http://www.ltbridge.com)

<http://twitter.com/LightbridgeCorp>

# Appendix

# LTBR - Key Technical Milestones in 2013-2014



## Technical milestone

Fabrication of  
fuel samples for  
irradiation in test  
reactors



Provides fuel  
samples for  
irradiation testing

Begin loop  
irradiation in  
prototypic PWR  
operating  
conditions



Demonstrate the  
performance of  
metallic fuel  
under prototypic  
operating  
conditions of  
Western-type  
PWRs.

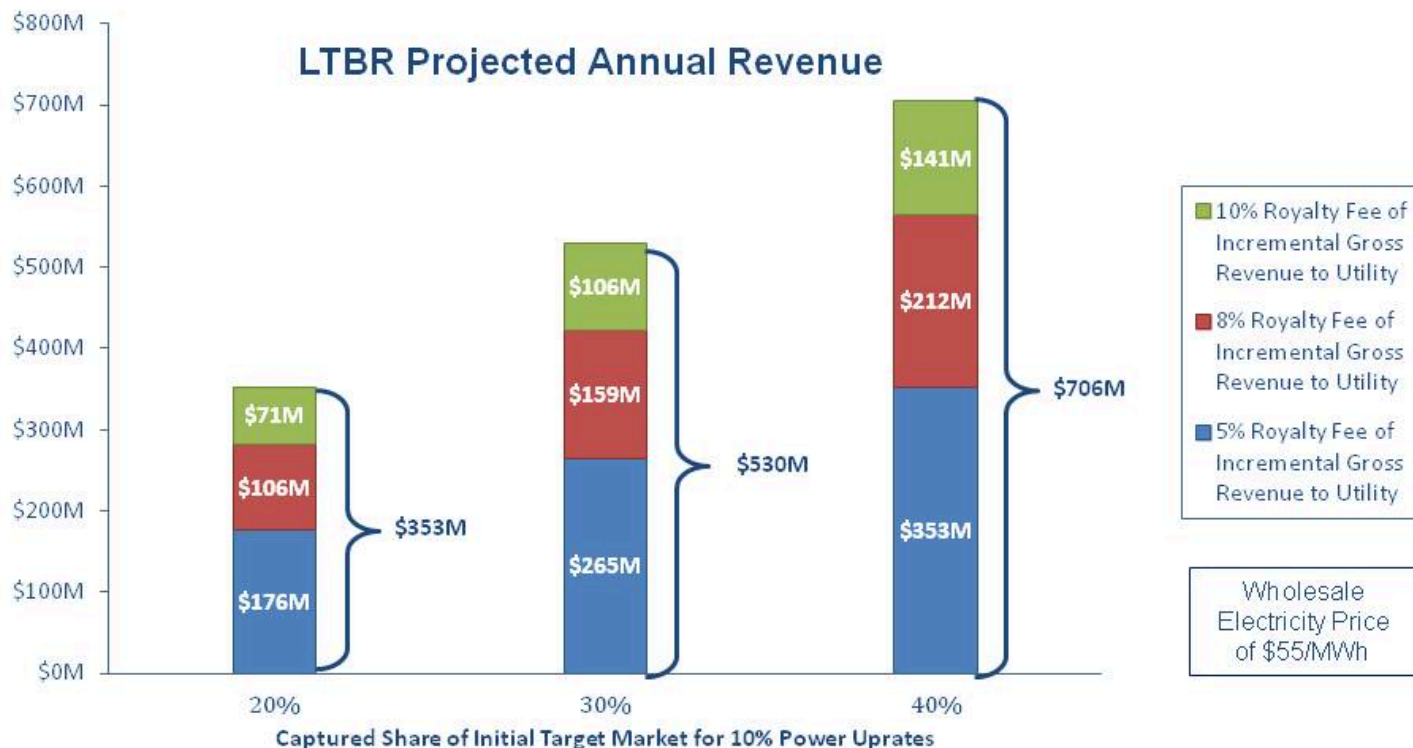
Fabrication of  
full-length fuel  
rods



Full-length fuel  
rods will be  
manufactured for  
fabrication  
process  
demonstration  
and out-of-  
reactor tests

## Milestone significance

# Licensing Revenue Projections for 10% Power Uprate Fuel



**Note:** The above revenue numbers include an escalation factor of 3% per year. The 20-40% share of the initial target market for 10% power uprates represents approximately 8-16% of the entire projected global market size in 2025.

# Lightbridge Management Team



## **Seth Grae**

*Chief Executive Officer & President*  
Lightbridge Corporation

- Member of the Civil Nuclear Trade Advisory Committee to the US Secretary of Commerce
- Member of the Suppliers Advisory Committee of the Nuclear Energy Institute
- Former Member of the Governing Board of the Bulletin of the Atomic Scientists
- Former Co-Chair of the American Bar Association's Committee on Arms Control & Disarmament

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## **Ambassador Thomas Graham, Jr.**

*Executive Chairman of the Board*  
Lightbridge Corporation

- Advisor to five US presidents on nuclear non-proliferation and served as Special Representative to the President for Arms Control, Non-Proliferation and Disarmament
- Former senior U.S. diplomat, world-renowned expert on nuclear non-proliferation
- Involved in every major arms control/non-proliferation agreement for the past 35 years

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## **James D. Guerra, CPA**

*Chief Operating & Financial Officer*  
Lightbridge Corporation

- Former Vice President of Finance for Exelon Nuclear
- Former Vice President of Finance and CFO of Exelon Business Services Company
- Former Vice President of Finance, Treasurer and Controller of Grupo Diná
- Senior management positions with AT&T, Citigroup, and Beatrice Companies



**Sir Ronald Grierson,**  
*Chairman of the Committee*

- Co-Chairman of the Blackstone Group's International Advisory Board
- Former Chairman of the General Electric Company plc (UK) 1968 - 1996
- Served on the Boards of Chrysler Corp., R.J. Reynolds, Nabisco, W.R. Grace & Co., British Aircraft Corp., International Computers Ltd.
- Former Managing Director of S. G. Warburg

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**Simon Murray, CBE**

- Non-Executive Chairman of Glencore, the world's largest diversified commodities trader
- Chairman and founder of the General Enterprise Management Services (GEMS), a private equity firm in Hong Kong
- Former Executive Chairman of the Asia Pacific Division of Deutsche Bank
- Former CEO of Hutchison Whampoa
- Board member – Vodafone, Richemont and Cheung Kong Holdings, Ltd.

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**Hans Blix, Ph.D.**

- Served for 16 years as the Director General of the International Atomic Energy Agency
- Former chief weapons inspector and executive chair of the U.N. Monitoring, Verification, and Inspection Commission in Iraq
- Former Foreign Minister of Sweden





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**Ernie Kennedy**

*Senior Vice President, Nuclear  
Deployment & Program Manager  
Generation Consulting*

- 33-year veteran of Westinghouse Electric Co. where he was Vice President for New Plants and was in charge of the successful construction and installation of nuclear power plants in numerous countries.
- Past Vice President for Engineering at Westinghouse, where he directed all design, analysis and safety evaluation for new nuclear power plants and new product development

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**Jon Johnson**

*Senior Vice President, Nuclear  
Safety and Regulatory Expert  
Regulatory Consulting*

- Former Deputy Director of the Nuclear Regulatory Commission's (NRC) Office of Nuclear Reactor Regulation
- Oversaw inspection, licensing, assessment, and event response at all 104 commercial and 26 research nuclear reactor facilities in the United States
- Regulatory agencies around the world have looked to Mr. Johnson for advice on reactor safety design, operation, and oversight matters, including the United Arab Emirates' Federal Authority for Nuclear Regulation, the Canadian Nuclear Safety Commission, and the Japanese Nuclear Safety Institute

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**Sandy McWhirter**

*Vice President, Consulting*

- Former UKAEA (United Kingdom Atomic Energy Authority) International Marketing Director
  - Developed nuclear projects in locations such as Russia, Ukraine, South Korea, and Romania
-

# Nuclear Fuels Management Team



## Andrey Mushakov, Ph.D.

*EVP, International Nuclear Operations*

- Primary liaison between Lightbridge and the Russian nuclear organizations
- 10+ years with Lightbridge

## James Malone

*Chief Nuclear Fuel Development Officer*

- Four decades of high-level experience in the nuclear industry
- Former Vice President, Nuclear Fuel, Exelon Generation where he was responsible for procurement (uranium, conversion, enrichment and fuel fabrication) for seventeen operating nuclear reactors - PWRs and BWRs

## Aaron Totemeier

*Director of Fuel Cycle Technology & Fuel Fabrication*

- Ph.D. candidate in nuclear engineering at Texas A&M University
- Expertise in material aspects of the nuclear fuel cycle including fuel design, fabrication, performance analysis and reprocessing technology

## Norton Shapiro, Ph.D.

- 30+ years of nuclear experience at Westinghouse and ABB Combustion Engineering, including former Chairman of Westinghouse's Technical Review Committee

## Sam Vaidyanathan, Ph.D.

- 30+ years of nuclear fuel research and development experience at GE Nuclear Energy

## Russian Federation Office

### Alexei Morozov, Ph.D.

*Managing Director*

Valeri Kevrolev, Ph.D.

Sergei Bashkirtsev

*Senior Nuclear Engineers*

- Russian employees of Lightbridge International Holding, LLC - Moscow
- 2 Ph.D.'s, 1 Master's Degree In Nuclear Engineering from the Kurchatov Institute
- 90+ years combined experience in the Russian nuclear program
- Experts in neutronics, thermal hydraulics, nuclear fuel performance and advanced reactor and fuel designs



## Key Lightbridge Regulatory Expertise

- Regulatory Processes
- Inspection Processes and Practices
- Safety/Security Analyses Review
- Regulatory Organization
- Safety Culture
- Cyber and Physical Security
- International Nuclear Law and IAEA Conventions
- International Cooperation Agreements
- Regulatory Management and Quality Requirements
- Operator License Requirements
- Proliferation Considerations
- Nuclear Licensing Issues
- Training and Qualifications
- Siting Characterization
- Import/Export Requirements
- Legal Considerations
- Design Certification Reviews and Assessments

*Lightbridge has unique international nuclear talent and experience to meet clients' specific needs*



## Key Lightbridge Nuclear Generation Expertise

- Project Development
- Project Management
- Schedule Development
- Technology Assessment
- Quality Programs
- Safety Analyses
- Organization Definition
- Risk Analyses
- Licensing Engineering
- Construction Management
- Operations Assessment
- Supply Management
- Cost Analyses and Estimating
- Contracting
- Nuclear Liability
- Export Controls
- Commercial Licensing
- Safety Culture
- Root Cause Analyses
- Site Assessments
- Waste Management
- Training

*Lightbridge has unique international nuclear talent and experience to meet clients' specific needs*





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ir@ltbridge.com www.ltbridge.com

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