

Mr. James Malone

Chief Nuclear Fuel Development Officer
Lightbridge Corporation



Thursday January 19, 2017 at 5:30 p.m.

At [Dominion Innsbrook Technical Center](#), 5000 Dominion Blvd, Glenn Allen, VA 23060

Lightbridge All-Metal Fuel Technology

Lightbridge metallic fuel is an innovative approach to light water reactor fuels. The presentation will provide an overview of the fuel along with technical and commercial aspects that make the fuel attractive to utilities. The presentation also provides comments related to the steps required to license the fuel. The fuel has evolved from use in Russian icebreakers to a competitive alternative to today's standard fuels. The fuel utilizes enrichments greater than 5 weight percent, although from a reactivity perspective it is similar to existing fuels. The actual enrichment will be determined on a cycle specific basis as reloads are designed. Fuel performance under the prescribed Anticipated Operational Occurrences will be discussed including a specific example of the fuel's response to a LOCA. Features of the fuel that enable advanced performance include high thermal conductivity, low thermal inertia, and a surface area about 35 percent greater than cylindrical fuels. The commercial aspects of the fuel will be presented. Topics include power uprates for existing and new build reactors as well as longer operating cycles. The combination of technical and commercial information is intended to provide the attendees with a clear understanding of this innovative fuel technology.

Speaker Biography:

Corporation. Jim is also a member of the board of directors of Kivalliq Energy, a junior uranium exploration company based in Vancouver, Canada. Mr. Malone also serves as an advisor to the American Academy of Arts and Sciences for matters related to nuclear power plant fuels. Jim retired as Vice President, Nuclear Fuels at Exelon Generation Company, LLC at the end of October 2009. As Vice President, Nuclear Fuels Mr. Malone provided the strategic direction

and tactical guidance for Exelon's nuclear fuel cycle activities. Prior to joining Exelon Mr. Malone served as Vice President and Senior Consultant at NAC International from October 1989 until October 1999. Mr. Malone participated in fuel cycle consulting focused on fuel procurement strategies and backend fuel management for utilities in the U. S. and Asia From July 1981 until October 1989 Mr. Malone was at SWUCO, Inc. as a nuclear fuel broker in the uranium, conversion, and enrichment markets. He became Vice President in 1986. Jim joined Yankee Atomic in the fuel procurement group and became Manager of Economic Analysis in 1978. Jim began his career in nuclear power in 1968 as an engineer in the utility reactor core analysis section of the nuclear engineering department of United Nuclear Corporation (UNC). His duties included bundle and core design for Dresden and Yankee Rowe. Mr. Malone received a B.S. in chemical engineering (nuclear) at Manhattan College, Bronx, New York in 1968. In 1972 Jim completed an MBA at Iona College, New Rochelle, New York. Jim is Past Chairman, Fuel Cycle Waste Management Division of the American Nuclear Society

Schedule:

- Social Hour - 5:30 p.m.
- Dinner - 6:00 p.m.
- Presentation - 6:45 p.m.
- Adjourn - 8:00 p.m.

COST: Dinner: \$25 for VA-ANS Members (\$15 for VA-ANS student members, \$20 for student non-members, \$30 for VA-ANS Non-members). Cash Bar.

Reservations for the meeting needed to be made by 4 p.m. on Monday, January 16, 2017. Please address any questions to [Nicole Waugh](#).