

# Patrick L. Garner

Principle Nuclear Engineer, Argonne National Laboratory

April 21, 2016 - [Rt. 64 Comfort Inn Monticello, Charlottesville, VA](#) at 5:30 PM



## ***Reduced Enrichment for Research and Test Reactors Program Activities for Russian-Designed Research Reactors***

In 1978 the US embarked upon the Reduced Enrichment for Research and Test Reactors (RERTR) Program to work with reactor operators around the world with the intent to reduce the U-235 enrichment substantially below the greater than 90% value typical of research reactors at the time. The motivation was to remove this weapons-grade material from general usage, replacing it with fuel having a U-235 enrichment less than 20% and doing this in such a way that the reactor retained a substantial part of its operational characteristics.

The RERTR program is managed by the US Department of Energy. Argonne National Laboratory is responsible for the technical coordination and has provided technical support since inception of the RERTR program. The RERTR program has worked with reactors in the US and those in foreign countries. Significant progress has been made over the past 38 years. This part of the program history will be summarized in fairly broad terms.

The focus of the talk will be the study and conversion of Russian-designed research reactors during the past 15 years, a time during which the speaker was involved. Aspects of the conversion activities will be presented for reactors in Kazakhstan, Libya, Poland, Russia, and Vietnam.

### **Speaker's Biography:**

Patrick Garner was born in Lynchburg, Virginia, a few years before B&W came to town. He attended UVA, earning BS (1972), MS (1974) and PhD (1977) degrees in Nuclear Engineering. Thesis advisor for BS and MS was Al Reynolds; Carl Erdman advisor for PhD.

Pat has been at Argonne National Laboratory (outside of Chicago, Illinois) since the fall of 1977 working on safety analysis topics related to several reactor types. He initially worked on sodium-cooled fast reactors, both real (EBR-II) and conceptual (PRISM and SAFR). He spent a number of years on computer code validation for the Russian VVER and RBMK power reactors. He was a loaned employee to Westinghouse as it assembled its case for design certification of the AP600. Since 2002 he has been associated with the Reduced Enrichment for Research and Test Reactors (RERTR) program, which will be the focus of the presentation.

**Schedule:**

- Social Hour - 5:30 p.m.
- Dinner - 6:15 p.m.
- Presentation - 7:00 p.m.
- Adjourn - 8:00 p.m..
- [Directions to the Rt 64 Comfort Inn Monticello](#) - (434) 977-3300
- The Comfort Inn is offering a special room rate of ~\$80 if you'd prefer to have a break in your travels.

**COST:** ~\$30 (\$20 for students) includes dinner.

Reservations for the meeting have closed as of 10 a.m. on Monday, April 18, 2016. Please address any questions to Reed Johnson by email at [wrjohnson@kaballero.com](mailto:wrjohnson@kaballero.com) or by phone at 804-462-7409 or Jonathan Witter ([jonathan.witter@gmail.com](mailto:jonathan.witter@gmail.com)).