

B-Reactor Tours & Gift Shop Resume *~Moderator 30th Birthday~*

THE MODERATOR

B R E A C T O R M U S E U M A S S O C I A T I O N

July-September

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Summer 2022

From The Control Room

by BRMA President Robert Franklin

I hope everyone is enjoying the wonderful late spring/early summer weather we are having, although as I write this the temperature is headed to triple digits so perhaps the real summer is finally upon us. I suppose weather is a decent way to transition into talking about tours. I've done several tours so far this season and the response from the participants has been outstanding. The tour program has made some changes to the tour this year and I'll run over the changes for those of you who haven't been on a tour in a while, and preview even more changes to come. I'll note that these changes are not "experimental" but rather the product of weighing the volumes of visitor feedback along with the observations of reactor and tour staff, and we'll see changes continue to be made to fine-tune the tour experience for our visitors. It's a good thing!

Visitors are now shown the entirety of the NPS-produced and BRMA supported "Hanford Made" video which briefly goes over the Manhattan Project story to give visitors a baseline history. The video also features longtime BRMA member Del Ballard talking about why the reactor is important to preserve in the first place. Some of you may remember that BRMA provided funds to support the animation in the film by local illustrator Adam Whittier and provided some technical input to the script. It's a great video to watch (or show family) and you can find it on YouTube – just search "Hanford Made."

The bus presentation is unchanged for the most part. The real changes come when visitors enter the reactor. The front face presentation is much shorter – 20-25 minutes. The shortening of the front face introduction was made partially in response to an overwhelming amount of visitor comments request more time for exploration (although I'll talk about the conflicting nature of visitor comments later). The front face docent is still present to answer any questions and can go into much more detail if visitors request after the basic orientation is over. There is much more to see now with that free time – the radiation protection exhibit is open (and was partially financially supported by BRMA) as is the new "reflection room" (actually rooms) in the old water labs area. Gone is the

three rooms of artifacts in cases that had little to no interpretive text and in their place is three rooms focused on reflection, historical context, and activities that the NPS has put together. The Control Room and Front Face presentations still take place at their scheduled intervals, although the Control Room has an added 5 minutes to talk about the basin viewing room.

Another change is an update to the reactor map. Colored lines will be added to show potential pathways for visitors to follow, more description added to some rooms to clarify what they are, and the front face docent will talk through the reactor map and give a brief explanation of the major rooms. Lastly, the tour program is going to introduce a "touch table" where visitors can directly interact with artifacts from the Hanford Outreach Collection that are approved for handling by the general public.

All in all I personally think it is good to see the tour program making changes in response to visitor feedback. In talking with some fellow docents however, I think some further changes should be taken after feedback is gathered this season. Primarily the program really needs to have more interpretation in ALL areas of the reactor, either in the form of a "roving docent" or two – the Bus/Control Room and Front Face docents have to be stationary in their positions (both for their lectures but most importantly because they are part of the "asset protection" plan) or with more interpretative panels showing visitors exactly what they are seeing, why it is important to the function of B Reactor, and answering some basic questions. Too often I see visitors walking through and not really understanding what they are looking at.

Visitor feedback is very important but it often fails to take into account any institutional knowledge of the changes we have made, or be cognizant of limitations of the tour program in making certain changes – i.e. it is not the "end all be

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The B Reactor Museum Assn. meets on the 2nd Monday of each month at 7 PM,
in a Conference Room at the Richland Public Library, 955 Northgate Dr., Richland.
Our next meeting will be July 11.

From The NPS— Ranger Updates

by Becky Burghart, MPHA Hanford Site Manager

Summer weather finally arrived appropriately on the first day of summer. I am looking forward to a few months of sunshine and warmth. As with the seasonal change, Manhattan Project staff are facing a period of transition. Superintendent Kris Kirby has accepted a new position with the Bureau of Land Management (BLM). She will be the Wyoming Associate State Director based in Cheyenne, WY. Kris was the first permanent superintendent for the Manhattan Project NHP and served in that role for almost six years. Kris has built and nurtured many important relationships and partnership over the past five years including the relationship with BRMA. During this period of transition, the site managers will keep things moving along in our communities and with our key partners. I anticipate that there will be at least one acting superintendent. There may be multiple acting superintendents depending on how long it takes to fill the role permanently. Typically, it takes the NPS six to nine months to fill a position.

The Hanford NPS team is busy with summer programming. We are starting a new program in partnership with the REACH Museum called Junior Ranger Park Explorers. This new series of free programs engages families and children of all ages in activities that explore Richland's nature and history at different neighborhood parks. Families can drop in any time during the two-hour program, and no reservations are needed. Children can earn a special junior ranger patch or pin by attending at least two of the three programs and completing the

corresponding activities in the Junior Ranger Park Explorer Passport booklet, which will be available during the programs. The programs start at 9:00 am. The program dates are: June 29 at Howard Amon Park near the fingernail stage; July 19 at Claybell Park; and August 18 at Goethals Park. We continue to collaborate with Richland Parks and Rec for Pop-up Playdays and Richland Library on additional summer programming.

We will host a Lights for Peace event on August 9 to commemorate the atomic bombings of Japan at Howard Amon Park (fingernail stage) from 8:00-9:00 pm. Prior to August 9th, we will host community events where folks may write messages of peace on the bags that will be used for the luminarias at the August 9th event. We are working across the park and with Pearl Harbor National Memorial (NM) to help mark the 77th anniversary. Oak Ridge will host an event with luminarias on August 6. Pearl Harbor NM will set up luminarias on the USS Arizona Memorial on August 7. Los Alamos will host an event on August 8, and finally Hanford's program will close these series of commemoration events.

We continue to build our digital presence as well. We currently reach about 35,000 people each month on social media, and each month we gain new followers. We are still working on the Learn about the Park section of our website, virtual tours, and a new junior ranger book for Los Alamos.

Until next time, Becky

Moderator Issue 1 Found

By Burt Pierard, BRMA Historian

A few months ago, Del Ballard was digging through boxes of old papers to find any bits of information to use in his History of the BRMA project. In one box, he found a copy of the original Moderator, Issue 1, dated Aug./Sept. 1992, along with one copy each for the next 3 years dated January or Winter. (They were not publishing quarterly yet but obviously wanted to get a Winter issue out to align with the new officers and the plan for the year.) All 4 of these issues are presently being scanned and will be included in our Newsletter Archives on our website soon.

Anyhow, using modern terminology to call the Issue 1, the Summer 1992 Moderator, leads one to the issue you are reading (Summer 2022 Moderator) as the 30th Anniversary of the Moderator!

BRMA had incorporated about 15 months before the Issue 1 publication but it was obviously still striving to get B Reactor noticed. In his lead article Don Sandberg, BRMA President, asks "What and who is BRMA? ... We have chosen the articles in this first issue to try to give you an understanding of what BRMA is and what it's doing." He also took note of the April 3, 1992, National Park Service addition of B Reactor to the National Register of Historic Places but encouraged continued aggression in working to make B Reactor a museum. He said, "It is important to realize that this honor, while lending some credibility to our efforts, is not any particular assurance that B Reactor will become a museum or even be kept from destruction.

The articles cited covered a variety of subjects. The most important was the scientific and engineering accomplishments

that needed to be preserved. Another was the establishment of an Interpretive Center to depict not only the regional history of Native Americans, Hanford site geology, homesteader and settler history, but also the Manhattan Project and B Reactor history. Two others covered Fund Raising and the need for Public Tours.

From The Control Room

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all" (much like student evaluations of a teacher). Some of the feedback I've noticed (as have others) is that there is TOO much free time and TOO little explanation – whereas in previous years they had commented on the opposite. I think that points to several things: adjustments are good and necessary, and that you can never please everyone all of the time.

The last thing I will say about tours is that they are still affected by COVID – they took a pause in early July and may have to again this season. With rising COVID (remember that?) cases in Benton and Franklin counties to the "Medium" level the Hanford Site has instituted new requirements for accessing the site. These are to either show proof of vaccination or a negative COVID test within the last three days. As the Visitors Center is considered the Hanford Site this directly impacts the tour program and rather than make the center staff become COVID

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MYSTERIES OF THE BRMA **The Elusive Graphite Blocks And Process Tubes** **By Bob Carisino, BRMA Member**

The *PBS* program “Antiques Roadshow” aired a segment showing an individual who brought in a graphite block which he said was from the original Chicago Pile that Enrico Fermi and his team built to test the first controlled fissioning of uranium in a graphite pile. Was this block of graphite actually one used in the Chicago pile? I am not sure, and I would want to see the detailed characterization of the graphite to determine if there were any signs of its presence during a fissioning of uranium. But it makes a great story, and if it was a relic of that historic experiment, it certainly is a valuable item.

The “Antiques Roadshow” segment has an interesting relationship to an issue that the BRMA Board of Directors recently investigated. Most BRMA members are aware that the founders of BRMA were almost single-handedly responsible for saving the B Reactor from the Environmental Restoration Cleanup Contractor “Cocooning” process that DOE had planned for all the Hanford production reactors, including B Reactor. If it had not been for the continued cajoling, lobbying and interaction with DOE and Congressional Officials by these BRMA founders, B Reactor would likely have gone down the same path as the other 8 production reactors at Hanford, and never been made available as a publicly accessible historical building, a National Landmark and ultimately a National Historical Park.

But fewer members may be aware that BRMA and its founders also played a key role in preserving other artifacts of the production mission at Hanford. Many of those artifacts were later transferred to the Hanford History Project, and now reside in the official archives of the Project. Others items however, that were not historically as significant, remain in the ownership and possession of BRMA.

Our mystery relates to several of those items. According to several of the Board members, BRMA had taken possession of several spare process tubes and graphite blocks from B Reactor or its sister reactors at Hanford. The acquisition of these spare parts had occurred many, many years ago, when the Hanford Site was in the process of remediating the River Corridor Areas, and these excess items were considered waste. Board members recalled that a “Pallet” of the graphite blocks and several process tubes had been moved by truck from the Hanford Site to a private offsite storage location (For purposes of security, the specific storage location is not discussed in the article.) But it had been over a decade since anyone had seen the materials, and it was not known if they were still at the storage site. The individual who had given permission for the materials to be stored at the storage site had passed away, and memories were dim as to the specific size of the stored items, or where on the site the items were located.

Two of the newer Board members, Dave Marsh and I, agreed to investigate the matter and attempt to verify the presence and status of the materials. There were no

photographs or written description of the specific materials to guide the search.

In addition to the dimming of memories over the long passage of time, the difficulty of conducting search activities was increased during the COVID Pandemic. Facilities that once had an open office were now closed to the public, and to the extent work was being done it was behind closed doors and fences. Obtaining access and information from private companies about activities that occurred with informal documentation over a decade ago, with the key individual who had authorized the storage no longer alive, added to the difficulty in searching for these materials. The site where the materials were believed to be located, no longer had an office open to the public. Phone contacts had to be made through telephone messages with a telephone answering service, and repeated callbacks were required to even obtain the name of someone who might be able to help us in our search.

Eventually the firm gave us permission to enter the site, and Dave and I made a walking reconnoiter of the facility. We had been told by the founding Board members that the items were stored in a pile behind one of the buildings at the facility. Dave and I had both served as docents for the B Reactor tours, and we had a good idea of the length, diameter and shape of the aluminum process tubes, which were 44 feet long and 1.73 inches O.D. in diameter, and thought that those items should be easy to spot. Similarly, we were familiar with the general size and shape of the graphite blocks (48 inches long by 4 and 3/16 inches) used in the reactor construction, and expected to recognize a pile of these blocks.

However, after our first search of the private site, our hearts dropped, as we did not find them behind any of the buildings, or piled anywhere else on the site. I was especially concerned, as in my earlier years, I had tried to save one of the first mechanized fire trucks used by the City of Seattle. It was an antique 1916 Seagraves ladder truck, with solid rubber tires on wheels with wooden spokes. And chain drive. I had stored several parts of the truck, including the solid copper oval gas tank, in the basement of the family farm house in Tukwila, WA. Thieves broke into the basement, and stole any metal items which they could sell for scrap, including the antique fire truck’s solid copper gas tank. It was never found, and police said it was likely immediately sold to a metal recycler and crushed into a block of scrap copper. Could the Hanford reactor process tubes have met a similar fate, and been sold to a metal recycling yard? And what happened to the graphite blocks? The facility looked very clean and tidy, which we did not take as a good sign. It had been recently paved, and there were no storage piles anywhere. But perhaps the management had decided to store the items inside one of the buildings, and if so, they could still be intact.

We were able to talk to a worker on the site and asked about the contents of the buildings. He did not recall seeing

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MYSTERIES

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anything like what we described to him, in any of the buildings. While he had no idea of what might have happened to the items, he was able to give us a direct phone number to contact the local site manager. We left a message on that individual's phone, and after a period of time passed, the local site manager called us, and we explained what we were looking for. The site manager had only worked in the Ti-Cities for a little over a year, but he had discussed our concern with the owners of the firm, and they did recall the graphite and some aluminum tubes. **EVEN BETTER NEWS WAS THAT THEY HAD SAVED THEM AND PLACED THEM IN A NEW STORAGE LOCATION!**

We made arrangements to obtain access to the site for a second time, and on this visit, the site manager escorted us to a location where the items were stored in their own storage unit! The unit was open to the elements, but the graphite blocks and process tubes were hidden away under some ancient tarps. Lifting up the tarps, we found numerous pieces of graphite, some that had been drilled for the location of process tubes, and others which were machined for the inclusion of control rods or channels for the introduction of boron balls used in the emergency reactor shutdown SCRAM system.

We found that the process tubes were not full length, 44 foot long tubes, as we had anticipated, but had been cut into pieces 7-10 feet long. Thus they were able to fit

in a much smaller storage facility than we had been anticipating.

As docents, Dave and I had both explained the use of boron balls as components of the last line of defense emergency SCRAM system to shut down the fissioning process in the reactor in the event of an emergency that could not be controlled by insertion of the safety and control rods. Now we were able to see actual examples of these boron balls. We assume that the specific balls BRMA had saved, were either machining trial products, or were actual backup supplies, that might have been available to load into the ball hoppers above the reactor block, had it ever had been necessary to utilize this last resort emergency shutdown system for the graphite reactors.

Through the generosity of the anonymous donor who has provided use of the storage area, a new more substantial cover has been made available for the storage unit, and these historic materials have been documented and will be available for future programs of the BRMA! While the process tubes and graphite blocks that BRMA preserved may not have the pedigree of the graphite in the "Antiques Roadshow" story, we feel more comfortable and secure in possessing historical spare parts, rather than materials that may have actually been used in a fissioning reactor.

*** SPECIAL * BRMA * ZOOM * EVENT ***

Date: Tuesday, July 19th

Time: 6:00 PM PDT

(BRMA Member Zoom Invites will be sent out under a separate emailing)

"Forgotten Creators of the German Atomic Bomb"

Guest Lecturer: Dr. Todd H. Rider

"Contrary to the conventional historical view that the World War II German nuclear program accomplished little, recently rediscovered evidence suggests that the program may have progressed all the way to the design, production, and successful testing of a fission bomb. The German bomb appears to have been remarkably similar to the U.S. Gadget and Fat Man bombs. It is important to carry out further research in archives around the world, and also to conduct industrial archaeology and scientific analyses at European sites where nuclear work may have taken place, in order to elucidate the true extent and history of the wartime German program."

Dr. Todd H. Rider

Todd Rider received his Ph.D. from MIT in 1995, and spent most of his career as Senior Staff Scientist at MIT, leading research programs and teaching. Dr. Rider and his projects have been featured in *Science*, *Nature Biotechnology*, *Scientific American*, *Technology Review*, *National Geographic*, *Time*, the *New York Times*, *Der Spiegel*, BBC, and numerous other outlets. Most recently, he has conducted archival research around the world and written *Forgotten Creators*, which covers revolutionary innovators and innovations that came out of the German-speaking scientific world ~1800–1945, and what we can learn from them that could improve innovation in the modern world (riderinstitute.org/revolutionary-innovation).

From Our Gift Shop By Rick Bond, BRMA Products and Sales

The big news is that BRMA has found a new home for our gift shop (see article on Page 9). Steve Woolfolk and Brian Sheldon have a book store, Xenophile Books, located about two blocks from the MAPR Visitor’s Center and they have agreed to house our BRMA/MAPR gift shop. Not only will they house it, they will make the sales, pay the sales tax, and track the sales and inventory and do it all for a small fee. Housing our gift shop will also benefit their business by bringing them potential customers and giving them more visibility. One of the most amazing things is that they are not only knowledgeable about books, games, space toys, and all the other items they sell, but they are Hanford/Manhattan Project enthusiasts. They have a museum in their building dedicated to the Manhattan Project so they will not only sell our products, but they will be able to interact with our park visitors and further enhance their national historical park experience. A big THANK YOU to Xenophile Books for their support of BRMA. Please stop by and say hello. Check out our gift shop and check out the amazing collection of books and many other items they offer. I’m sure you will be as amazed as I was at their collection and I’m sure you will find something that interests you.

For the past year BRMA has been storing our gift shop items in a storage locker. At the end of April, Burt Pierard, Del Ballard, Robert Franklin, Gene Weisskopf, and Terri Andre helped me move our BRMA furniture and a lot of our inventory to the Xenophile Books

building and set up the display. A big THANK YOU for their help. Our large sandwich boards were modified to say Xenophile Books and they have been placed at strategic locations to help direct our park visitors to the new gift shop location. Dave Marsh also made a card with information and a map to show the location of the new gift shop. The Visitor’s Center also got a vintage cabinet to display our gift shop items in the Visitor’s Center. Thank you to Dave, Anne Vargus, and Julie O’Neill for setting up the display of our items in the new cabinet. The cards that Dave made will be placed next to the new cabinet. Now we need to be sure the docents get the word out to our park visitors about the location of our new gift shop. A big THANK YOU to Gary Fetterolf for allowing BRMA to sell his book, “Walking Tour of World War II Era Alphabet Homes in Richland, WA” and for donating 45 copies of the book to the gift shop.

The new gift shop was open only five days in May but we did about \$800 in sales. Great start! We have also continued to make some sales at our other locations, primarily at The Octopus’ Garden, Visit Tri-Cities, and the Reach Museum. I have worked with Gus at The Octopus’ Garden to have a MAPR B Reactor/MAPR section in the store with labels stating that the sale of these items supports the local national park. Please do what you can to support these businesses, and if you do stop in to see them, please say hello, tell them that you read about them in the Moderator, and how much you/we appreciate their support.

BRMA 2nd Quarter 2022 INFLOW-OUTFLOW Report

By Dave Marsh, BRMA Treasurer

CATEGORY	APRIL	MAY	JUNE	QUARTERLY TOTALS
<u>INFLOW</u>				
2022 Donations	\$105.00	\$ 0.00	\$ 0.00	\$ 105.00
2022 Dues	\$ 70.00	\$ 0.00	\$ 0.00	\$ 70.00
2023 Dues	\$ 10.00	\$ 0.00	\$ 0.00	\$ 10.00
2024 Dues	\$ 10.00	\$ 0.00	\$ 0.00	\$ 10.00
Souvenir Sales - General	\$ 0.00	\$317.00	\$789.30	\$1106.50
Souvenir Sales – Octopus Garden	\$ 0.00	\$141.00	\$ 0.00	\$ 141.00
TOTAL INFLOW	\$195.00	\$458.20	\$789.30	\$1,442.50
<u>OUTFLOW</u>				
P.O. Box Annual Fee	\$212.00	\$ 0.00	\$ 0.00	\$ 212.00
Souvenir Purchase Re-Supply	\$ 0.00	\$ 0.00	\$798.21	\$ 798.21
Souvenir Sales Expenses - Maps	\$ 0.00	\$194.67	\$ 0.00	\$ 194.67
Souvenir Storage-Atomik Properties	\$130.00	\$ 65.00	\$ 65.00	\$ 260.00
TOTAL OUTFLOW	\$342.00	\$259.67	\$863.21	\$1,464.88
OVERALL TOTAL	-\$147.00	\$198.53	-\$ 73.91	-\$ 22.38
TOTAL QUARTERLY INVESTMENT INCOME				\$ 145.04
BRMA 2nd QUARTER 2022 NET				\$ 122.66

Gift Shop Has A Home By Rick Bond, BRMA Products and Sales

NEWS FLASH!! BRMA HAS FOUND A NEW HOME FOR OUR GIFT SHOP!!

Amazingly enough, Steve Woolfolk and Brian Sheldon have opened a book store at 2240 Robertson Road, about two blocks away from the Manhattan Project National Historical Park (MAPR) Visitor's Center. They have been open for over a year but we just discovered them. The name of the store is Xenophile Bibliopole & Armorer, Chronopolis (Xenophile Books for short). They buy, sell, and trade books and collectible items of all types but they also have a strong interest, and a lot of knowledge, about the Manhattan Project and the Hanford area. They have an amazing amount of books, over 20,000, games, poster, albums, toys, etc. They also have a room dedicated to the Manhattan Project and the Hanford area with many artifacts, letters, books, etc. Steve is a retired health physicist from Hanford and Brian worked at PNNL and at one time owned a book store in the Uptown Shopping Center. It is unbelievable that they have all this "stuff", it is an amazing collection to see, and unbelievable that they are located so close to the MAPR Visitor's Center.

But, even more unbelievable is that they are willing to give us a space in their building to display our gift shop items. They want to support the local national park so they gave us a great deal. They will not only display and sell our products, they will also keep track of sales, collect and pay the state sales tax, and help us to maintain our inventory. What they hope to get out of it is increased traffic to their shop and hopefully that will translate into increased sales for them, but also more people to talk to about their passion for books, games, posters, science fiction toys, Hanford, and the Manhattan Project.

Xenophile Books is the "brainchild" of Steve Woolfolk. Steve has collected science fiction books, movie posters, paperbacks, and science fiction toys for 40 years. Now he has opened his store and is offering these rare and unusual items for sale. Among the items for sale are collectible books (science fiction, mystery, fiction, and nonfiction), space toys (both old and older still), movie posters, original art, and a truly eclectic array of random knick-knacks and artifacts. Steve has partnered with Brian Sheldon of Sheldon Library/Sheddes and Peasant Booksellers fame. Brian brings his interest in mysteries, thrillers, and all things historical to the endeavor. Whether you are a collector, a gleaner, or an in between'er, or just looking for a special gift for the person who has almost everything, you must experience the wonderful wares at Xenophile Books. Their building is large but it is full to the brim with their "stuff" and now it even contains our BRMA/MAPR gift shop "stuff".

Xenophile Books is located at 2240 Robertson Road Richland, WA (Phone: 509-375-7505). Steve and/or Brian are typically there Thursday – Saturday, but they have agreed to be there for most of our tour times, so there is pretty much someone there from about 10 am until 4:30 Monday through Saturday.

Again, very unbelievable that they have opened a book store so close to the MAPR Visitor's Center, that they are Manhattan Project and Hanford enthusiasts, and are willing to house and manage our BRMA/MAPR gift shop. They can talk Manhattan Project and Hanford and will be great hosts as they can talk the language with our MAPR national park visitors. Be sure to stop by and say hello to them soon.



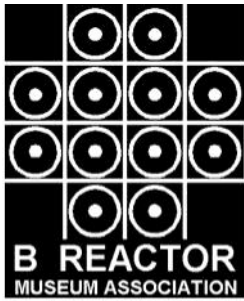
Store location



Xenophile Bookstore



Sandwich Board Signs



PO Box 1531
Richland, WA 99352

<http://www.b-reactor.org>
info@b-reactor.org

From The Control Room

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monitors the decision was made to pause tours for the immediate timeframe in anticipation that COVID cases will decline to a safer level. A reminder that while inflation and Ukraine have seemingly taken over the news, and that we are exhausted from 2+ years of hearing about COVID, that it is still present and cases are rising in the SUMMER, a period historically where this disease has tapered, not risen. Please take care of yourselves.

Lastly, it's my pleasure to announce that BRMA will be hosting a presentation by Dr. Todd H. Rider on the "Forgotten Creators of the German Atomic Bomb" via Zoom on Tuesday, January 19th at 6PM Pacific Daylight Time. Details are in an advert on Page 5 in this issue. I hope you can join us for this exciting presentation that asks new questions of the German nuclear program in WWII.

Robert Franklin
President, B Reactor Museum Association