

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 2013

From The Control Room

by Maynard Plahuta, BRMA President

WE ARE ONE STEP CLOSER! Yes, we are heading closer for B Reactor becoming part of the proposed Manhattan Project National Historical Park. The U.S. House of Representatives passed an amendment to HR 1660 of the National Defense Authorization Act for Fiscal Year 2014. This amendment was authored by Congressmen Hastings (WA), Fleischenmann (TE), and Lujan (NM).

Of course the next step is to see what action the U.S. Senate takes. It could choose several alternatives to act on this subject, such as via a Department of Interior authorization or via the Defense Authorization Act for Fiscal Year 2014—this route doubtful in my view. In my opinion there is strong evidence the Senate will pass some form of legislation which will authorize the establishment of the Manhattan Project National Historical Park. We have two strong supporting Senators from Washington – Murray and Cantwell (with the latter on the Senate Committee most likely taking action on this matter) – as well as Senator Wyden who Chairs the Committee, and Senators from both Tennessee and New Mexico who favor the establishment of the Park. In any case it appears the authorization will end up in a House/Senate Conference Committee. At this point there is every indication President Obama will approve the authorization when it reaches his desk.

In other BRMA areas, sales appear to be picking up at the gift shop near B Reactor tour Headquarters. This is another action BRMA has accomplished this year. Many tour visitors have requested an opportunity and convenient place to purchase souvenirs in previous years. Note elsewhere more information about the store.

Our two new models of the 100 B Area and the graphite layout have been a great success. Plans are still in the making for a media event at B that officially announces these models. Hopefully that can occur very soon. Pictures of the models are located in this issue of *The Moderator*.

Another first is a memorial to Col. Franklin T. Matthias. AMVETS Post 397--with primary help from Karen Miles and her family, and other donors--is sponsoring a bronze bust of Col. Matthias to be located at the Richland Public Library at the corner of North Gate and Swift Blvd. Local award-winning artist Michael B. Salazar has made a terra cotta sculpture of Col. Matthias and local artist Ron Gerton is doing the bronze from Michael's terra cotta sculpture. Ron is also known nationally for his artistic endeavors. BRMA was asked if we would like to receive the terra cotta sculpture for placement at B on the condition we make a stand for it. BRMA graciously said yes---- with the concurrence of RL-DOE since it will be located in a DOE facility.

It is finally time for a proper local attribute and remembrance of Col. Matthias. He received the U.S. Army Distinguished Service Medal for his performance as Area Engineer for the Manhattan Project Hanford Engineer Works and Richland Village. He “---- performed distinguished services in connection with A PROJECT OF UNPARALLELED IMPORTANCE.”

There will be a formal memorial event honoring Col. Matthias at the Richland Public Library at 11:00 a.m. Aug. 24, 2013. Tentatively that will be followed the same day with an event at B Reactor. Save the date for both.

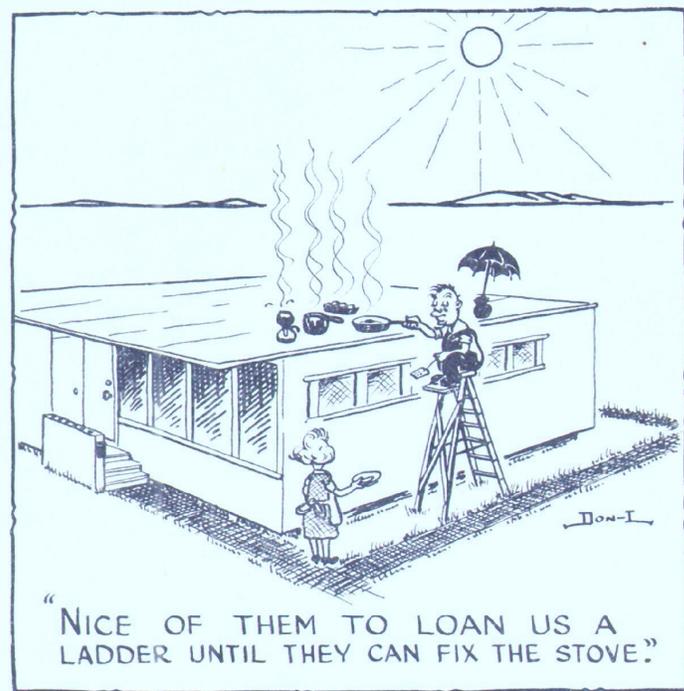
The B Reactor Museum Assn. meets on the 2nd Monday of each month at 7 p.m. in the CREHST Museum Auditorium, 95 Lee Blvd., Richland
The next meeting is Monday, July 8, 7 p.m. at CREHST

Did You Know? Interesting Facts About B Reactor

Fission-born neutrons escape from the uranium fuel at high speed during operation and enter the graphite, where they bounce from atom to atom, losing a fraction of their energy at each impact until they have been slowed down to a velocity roughly comparable to that of an atom of gas at the temperature of the reactor. In this state they are called slow or "thermal" neutrons because their kinetic energy is roughly that of the thermal energy of the atoms of the pile. Throughout this process, there is a competition between the various fates of the pile neutrons. A neutron may get back into the uranium and be absorbed while it is still going too fast, leak out through the sides of the pile, be absorbed by the graphite, the aluminum, or the water, or reach the desired final slow velocity at which it is most effective in producing other neutrons when it reacts with uranium. Leakage of neutrons is reduced by using a "reflector" to send most of them back from the surface into the mass of graphite that contains the uranium. The reflector that is used consists of an additional layer of graphite about two feet thick on all six sides of the reactor.

Source: HW-51856 Reactor Physics Primer

Dupus Boomer—by Dick Donnell



Membership Report By Burt Pierard, Membership Chair

2013 BRMA MEMBERSHIP DUES ARE NOW DUE. Our paid membership is 77 Individual and one Organization (Los Alamos Historical Society). Anyone who has paid and not received their 2013 Membership Card yet, should receive it in this mailing. To send in your renewal, the form is on this page to clip or print and send in.

This is a public acknowledgement of generous cash contributions to BRMA. The following list covers the period April through June 2013.

Madeleine Brown Carl Holder

2013 Renewal and New Member Application

Name: _____ Date: _____

Address: _____ City: _____ State: ____ Zip: _____

Phone: (h): (____) _____ (w): (____) _____ MSIN address: _____
(current Hanford employees)

E-mail: _____

- Individual (\$20) or Senior (age 65+) or Student (\$10) and New or Renewal
 Organization (\$25 up to 100 members; please add \$10 for each additional 100 members)

For Organization Membership, Official Representative: _____

Additional tax deductible contribution: \$ _____
(Tax ID # 94-3142387)

Total Enclosed: \$ _____
(Please make check out to BRMA)

Thank you; please mail this application with payment to:

**B Reactor Museum Association
PO Box 1531
Richland, WA 99352**

Sales Of BRx Souvenirs, Information Up and Operating

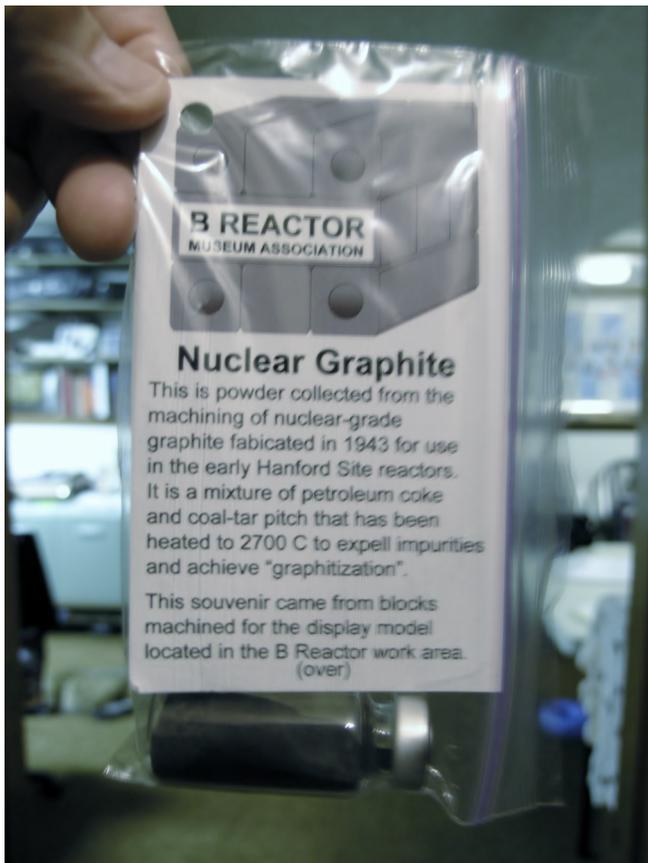
Visitors to B Reactor now can leave the area with more than memories to remind them of their visit to this unique National Historic Landmark.

In cooperation with local merchants Tom Koepnick and Debra Archer, BRMA has provided an assortment of items that relate to B Reactor and will remind visitors of their experience on the Hanford Site. These items are available through a shop that Debra Archer has set up in the 2000 Logston Bldg. She staffs the shop and handles sales.

There are clothing items, tote bags, photo magnets, post cards, beverage bottles and tumblers, samples of reactor-grade graphite, and several publications including the very comprehensive HAER document for B Reactor and "Prelude to the Atomic Age," a reprint of the original 1943 document that laid the foundation for the Atomic Age.



BRMA's Del Ballard (left) and Gene Woodruff model a few of the fashionable items available at Debra Archer's shop in the 2000 Logston Bldg. Her suite of offices is situated just around the corner from the Manhattan Project B Reactor Tour Headquarters, which is the starting and ending point this year for public Hanford Site and B Reactor tours.



**B REACTOR
MUSEUM ASSOCIATION**

Nuclear Graphite

This is powder collected from the machining of nuclear-grade graphite fabricated in 1943 for use in the early Hanford Site reactors. It is a mixture of petroleum coke and coal-tar pitch that has been heated to 2700 C to expell impurities and achieve "graphitization".

This souvenir came from blocks machined for the display model located in the B Reactor work area.
(over)



Genuine nuclear graphite (left) and a striking view of B Reactor on a refrigerator magnet are just two of the available mementos

Magnet photo of B Reactor courtesy of Gary White



This eye-catching model (above) of the B Reactor site as it looked during operation of the reactor now is situated prominently in the northeast corner of the work area at the reactor's front face.

Pushing the lighted buttons next to a facility described on the brown display panel illuminates that facility and shows its connection to overall operation of the reactor.



An isometric view (left) of the graphite model on the other side of the B Reactor work area, and the front view (below) provide graphic information on the complexity of graphite layout within the reactor's core.

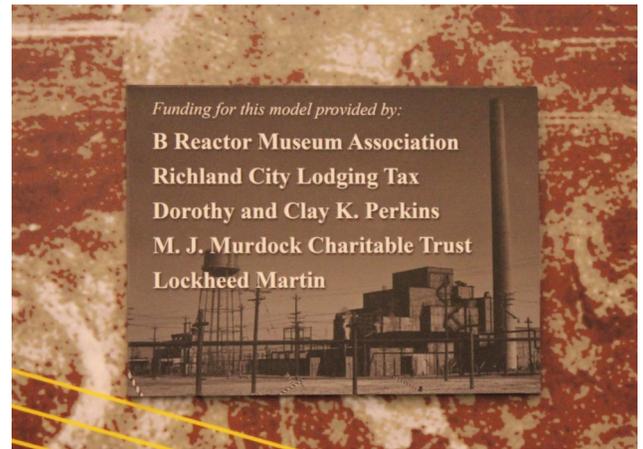


Informative Models Recently Installed At B Reactor Help Visitors Understand Facility

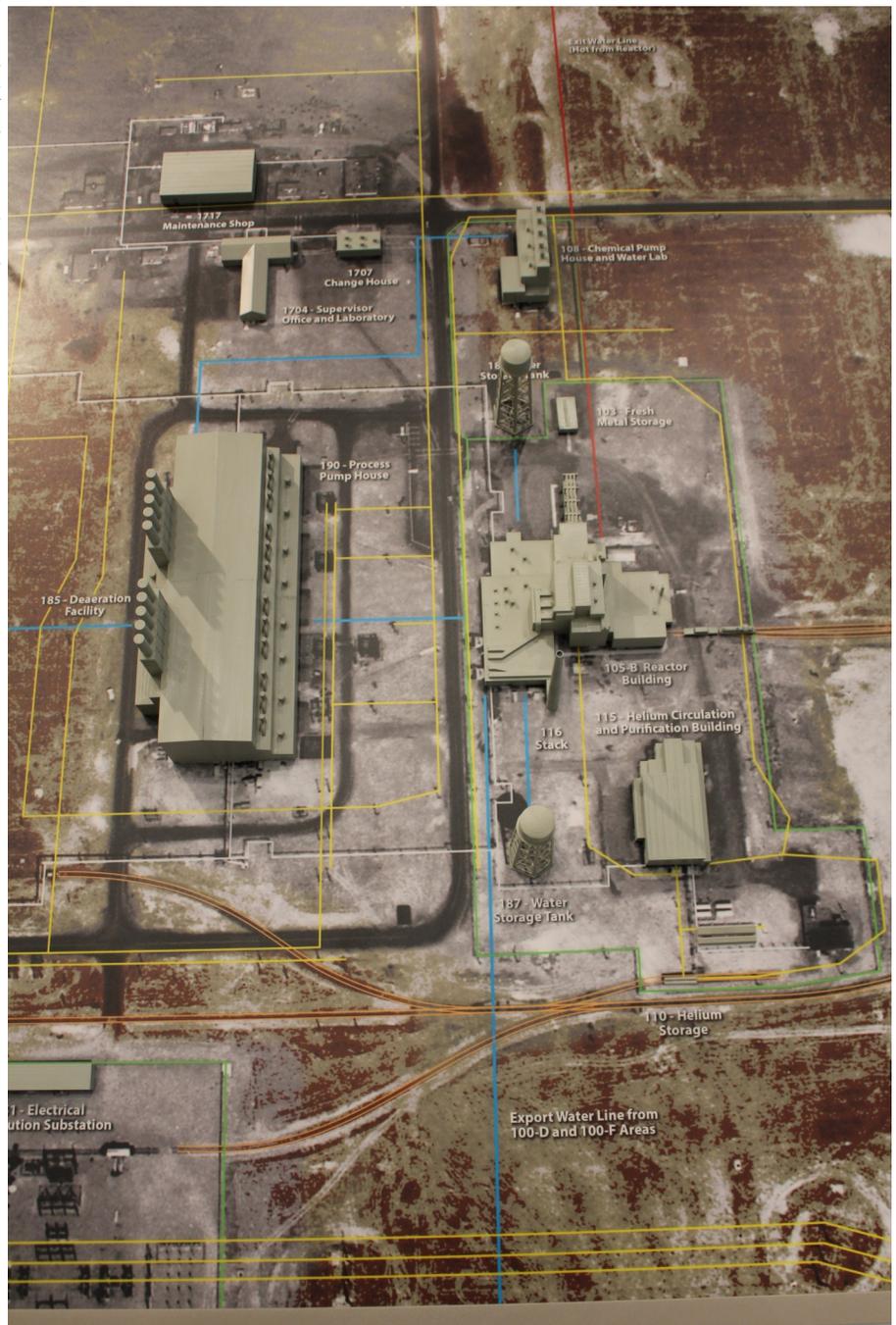
On April 24 this year, the recently completed models of the B Reactor site and of the graphite layout system within the reactor core were moved from the Lockheed Martin shop to B Reactor. They have been enthusiastically greeted by Reactor staff, docents, and visitors to the National Historic Landmark.

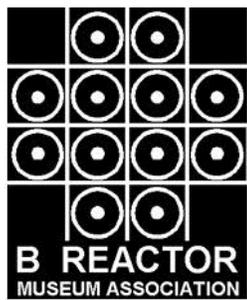
BRMA's Hank Kosmata, Del Ballard and Gene Woodruff, along with Cindy Kelly of the Atomic Industrial Forum, established the initial design of the models. Hank also was instrumental in getting funding, including \$25,000 from the City of Richland's hotel/motel tax fund; and Cindy Kelly for a substantial Murdock Foundation grant for the models and related items, and a \$25,000 matching/challenge donation from member Clay Perkins. These funds, along with \$10,000 contributed by BRMA, paid for the two models and various related items such as the vignettes used with the models and other items for B Reactor displays and tours.

Lockheed Martin's use of 3D printing technology resulted in finely detailed and accurate scale models of B Reactor structures.



Photos of B Reactor models courtesy of Bob Horgos





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