"Mask-Up & Socially Distance"

THE
MODERATOR
B REACTOR MUSEUM ASSOCIATION

April-June | Vol. 27, Issue 2 | Spring 2021

From The Control Room

by BRMA President Robert Franklin

Greetings to you, wherever you are, in the anniversary of probably the strangest twelve months of our lives. Certainly mine anyway. I hope you continue to be safe and well. This article will be much shorter than previous because we continue to have little to do all stuck at home. I'll do my best to keep it straight and to the point.

Right now it appears that there will be no tours for the first half of this season, and we should prepare for no tours this year period. While our national vaccination progress continues we already see some surges as different areas relax restrictions and different virus variants surge. We will also battle vaccine hesitancy and a general distrust of science, technology, and the public sector. Our faith in the knowledge and experience of scientists, the technology they employed, and the assistance of the public sector allowed momentous things to happen out at the Hanford Site. Not only was that a different era, it sometimes seems like a different world. Currently there is talk of some kind of "vaccine passport" by the administration. Whether that comes to fruition only time will tell, just like our tour season this year. I do hope for all of the museums, historical sites, and interpretive facilities, and all the hardworking staff (and volunteers), that we are opened as soon as it is safe to do so. If you have not already please get your vaccine when you can. Our safety, sanity, and economy depend on it.

Out at the Hanford Site what's old is new again. Mission Support Alliance (MSA) has transitioned to Hanford Mission Integration Solution (HMIS), a name that was certainly born in a boardroom. Pertinent to our namesake, the management of the B Reactor and MAPR facilities has been subcontracted to Lucas Engineering. COVID has so far prevented any meetings with DOE and Lucas but judging by some early reports and knowledge of the players involved this seems like a great fit. I would like to take this opportunity to wish the MSA staff, particularly Dave Phipps, well on his continued career at Hanford.

In this issue we will have some updates from Rebecca Burghart on what the NPS has been up to (they've been busy!) along with a remembrance of longtime BRMA member Gene Woodruff, who passed away in March. Gene was instrumental in the BRMA mission and an expert on all things graphite.. He will be missed by BRMA.

In the last couple months I've had some visits with Japanese media interested in Hanford. In February a reporter from the Asahi Shimbun spoke to myself and John Fox about the role of Hanford in WWII and the Cold War, and the environmental legacy of the site. And in early March I was interviewed for a similar topic by NHK television. Once we can see the products of that work I'll pass along the good bits.

Well, it's a larger issue than normal and I'll wrap it up here so you can enjoy that.

Tribute To Gene Woodruff (RIP)

by Maynard Plahuta, BRMA Past President

BRMA has lost a long time friend and significant contributor. In many ways Gene had supported our organization . Perhaps his greatest contribution was his direction and guidance in designing and building our graphite model prominently displayed in the front face room at B. This model provides in detail all aspects of an approximately four foot section of the reactor core including process tubes, control rods, and much finer details---and therefore a replica of the entire reactor core. Gene also prepared the audio video which clearly describes features and fine details displayed by the model that ensured full and safe operation of the reactor.

In addition to his faithful service to BRMA Gene was, and still is, recognized WORLD wide for his graphite knowledge and expertise. He attended many national and international meetings and conferences. He often was the keynote speaker at these events. Gene knew graphite better than the palm of his hand.

Beyond Gene's graphite expertise all those who knew him will remember him as a true and dedicated gentleman. Gene always regarded himself as an ordinary guy but he will be remembered by many of us as a true and friendly and likable man. We will greatly miss his friendly and kind manner. We extend our deepest sympathy to his family.

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 meetings are presently cancelled due to COV-19 social distancing.

In Memoriam

Gene Woodruff

Charitable Contributions

This is a Public Acknowledgement of the generous cash contributions to BRMA. The following list covers the period, January through March, 2021.

Craig Dickison ~ Bob Horgus
Dave Marsh ~ Dennis McLain
Wanda Munn ~ Rick Raymond
Richard Romanelli ~ Byron Robertson

Membership Report
By Bob Carosino, Membership Chair

2021 BRMA MEMBERSHIP DUES ARE NOW DUE. Our present 2021 paid count is 50 Individual Members (including 11 Life Members) & 2 Groups (Atomic Heritage Foundation & The REACH). One existing member renewed this quarter as a Life Member.

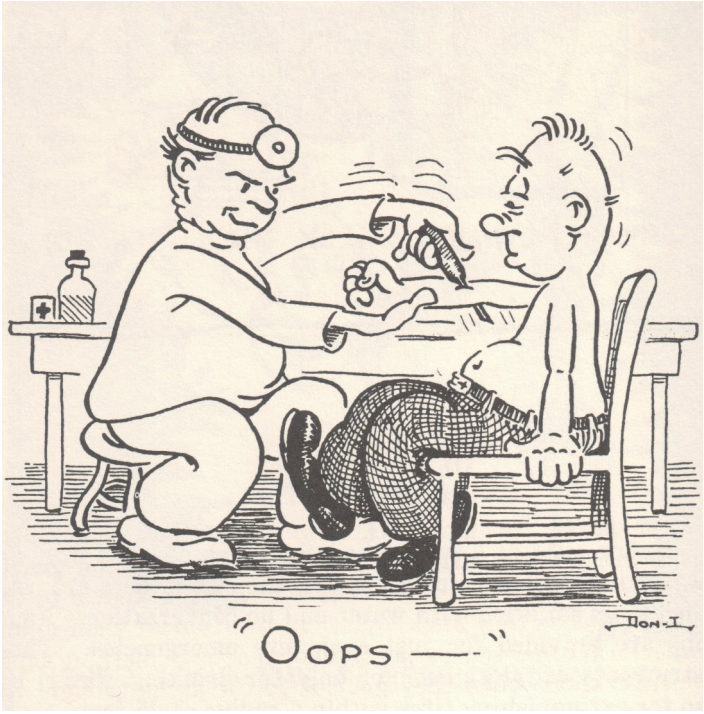
Remember that all your dues, as well as any additional donations, are tax deductible.

To send in your Renewal, the Form is below to: Hard Copy - Clip and Send In; E-Copy - Print, Clip and Send In.

New Member

Rick Raymond (Switched LIFE)

Dupus Boomer — by Dick Donnell
Contributed by Connie Estep



Connie's Comments: "Dick Donnell's comment on this cartoon was "Stuck Again". He went on to discuss medical exams both for hiring and continuing. Today we are so eager to get "stuck" with the corona virus vaccine that it's become the opening topic of conversations!

2021 Renewal and New Member Application

Name: _____ Date: _____
Address: _____ City:_____ State: ___ Zip: _____
Phone: (h): (_____) _____ (cell): (_____) _____
E-mail: _____(Please print legibly)

☐ Renewal ☐ New
☐ Individual ($20) or ☐ Senior (age 60+ - $10) or ☐ Student ($10) or ☐ Life Member (one time — $250) *(Individual Members Only)*
☐ Society/Group ($25) Name of Voting Representative: _____

Additional tax deductible contribution: $_____
Note: both Dues and Cash Contributions are Tax Deductable. (Tax ID # 94-3142387)
No goods or services were provided in exchange for your contribution
If your total enclosed contribution is $50 or less, print a copy of this application for your records. Over $50 will be separately receipted.

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

From The National Park

by Becky Burghart, MPHA Hanford Site Manager

Heraclitus is to have said that the only constant in life is change. Manhattan Project NHP (MAPR) staff have seen their share of change over the past year. A year ago, we hired four wonderful employees. Emily Welch is the full-time education technician at Hanford. Cyrus Forman (Hanford), Quinn Feller (Los Alamos), and Matthew Klein (Oak Ridge) make up our dynamic team of visual information specialists who are developing content for the park's website, social media channels, and new digital app.

And in this continually changing world, Cyrus recently accepted a new position at San Juan Island NHP on the other side of Washington. Cyrus starts his new position in mid-May. We are filling in behind Cyrus, and we will hopefully have his replacement hired in late May/early June. I am on detail working at Nez Perce NHP, Big Hole National Battlefield, and Whitman Mission NHP for two months until May 1. I am the acting deputy superintendent for these three parks (they are all managed under one superintendent). I am learning a lot and making new friends for MAPR. I am teleworking two days a week from my home in Richland and working at Whitman Mission the other days of the week.

On the visitor services side of the house, the National Park Service is launching its new digital app on April 16th. This app will be an amazing tool for planning and visiting national parks. While this app covers all 400+ units managed by the National Park Service, it feels like an individual app for each park once you get into the park's content. Between Hanford, Los Alamos, and Oak Ridge, we've added over 100 places in the app including The REACH Museum, Howard Amon Park, Triton Sail Park, and of course the "behind the fence" places including the B Reactor, T Plant, 300 Area, the White Bluffs Bank, and so on. Each place writeup includes several paragraphs of information about the place's connection to the Manhattan Project as well as a picture of the place and a map that shows where the place is located. In addition to places, the app includes self-guided tours such as a walking tour of downtown Richland and suggested things to do like watching a play at the Richland Player's Theater or picnicking at Howard Amon park.

For the app, park staff focused on creating a visitor experience that can be enjoyed by anyone at any time. The app expands the menu of experiences available to visitors that now includes DOE-led B Reactor and Pre-War tours, watching a park film and reading exhibits in the visitor center, and numerous customizable experiences available through the app. The park is working with Visit Tri-Cities to promote the app during National Park Week (April 17-25). Please watch our social media channels starting on April 17 for more information on the app launch and directions to download the app.

For National Junior Ranger Day on April 24, we will debut the new Hanford Junior Ranger book that features Atom U. Fission, our new junior ranger program logo. This book was originally drafted by our 2018 Teacher-Ranger-Teacher Teresa Templeton. In 2020, Meghann Stevens and I revised and finalized activities and hired a wonderful digital artist to illustrate the book. I'd like to thank Robert Franklin and Gene Weisskopf for their guidance and feedback on several activities in the book. We also received valuable feedback and support from Gerry Griffin and Gene Carbaugh for their help with the nuclear science focused activities. The book covers all four of the park's themes from revolutionary science to sharing untold stories about African American and women at Hanford. The book is not tied to a specific visitor experience like a B Reactor tour. This will allow more children to complete the book throughout the year when the tours are not running or when families are not able to attend a tour.

Visit the park's Facebook page or website on or after April 24 to download the new book. The new book will only be available for digital download until we use up the old stock of junior ranger books, which most likely will be spring/summer of 2022.

We continue to reach several thousand social media users each week through our posts on Facebook, Twitter, and Instagram. The park's social media team continues to produce high quality posts on diverse topics that connect with a variety of audiences. Social media has proven to be an effective interpretive tool for park staff to connect with folks from around the world.

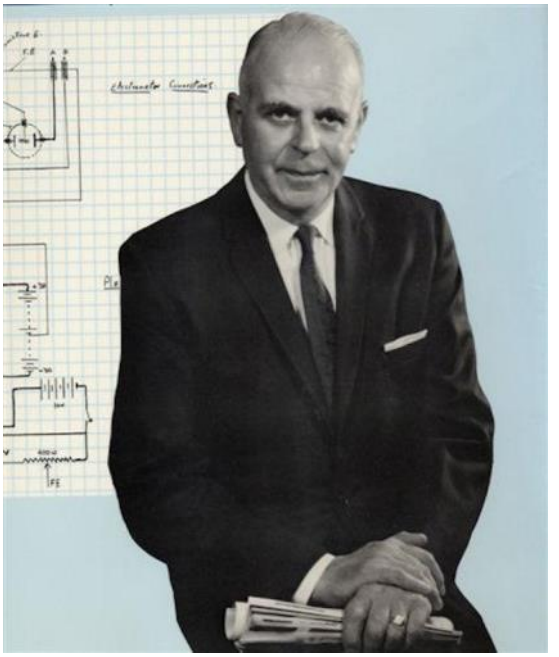
We are looking forward to once again changing the way we do business from telework to back in the office and community and seeing each of you in person!

A BRIEF HISTORY OF RADIATION PROTECTION AT HEW 1943–1960

by Dave Marsh, BRMA Treasurer

PRINCIPAL PERSONNEL

In late December 1942, three weeks after the first successful nuclear chain reaction was achieved by Enrico Femi In Chicago, the U. S. government signed a contract with the du Pont Company for the engineering, design, construction, and operation of the Hanford Engineer Works (HEW). This article focuses on the accomplishments of Herbert M. Parker one of the early Physicists at Hanford in the early 1940s.



Herbert M. Parker
(circa 1975)

The du Pont Company assigned this responsibility to the Explosives Department, and a new division was formed within the company, the Explosives Department--TNX. A site was selected for HEW in January 1943; two months later in March, construction began. By late September 1944, the first Hanford reactor (B Reactor), began operation and in February 1945 the first production plutonium was delivered to Los Alamos NM.

During the initial days of the Manhattan Project Dr. Arthur H. Compton asked Dr. Robert S. Stone, a radiologist from the university Of California with a background and training in radiation, including study at the Curie Institute in France, to join the group at the University of Chicago. Dr. Stone then recruited Dr. S.T. Cantril, a radiation therapist, and Herbert M. Parker, a physicist from the Swedish Hospital in Seattle, because of their work with radiation at the hospital's tumor Institute. These recruitments marked the beginning of the development of the large-scale radiation protection programs that evolved from the small group of scientists assembled in Chicago.

In February 1943, Dr. W.D. Norwood transferred from the du Pont Kankakee Ordinance Plant to work on radiation hazards control under the direction of Dr. S.T. Cantril and H.M. Parker. Dr. Norwood's transfer, along with the recruitment of other medical and technical personnel, laid the groundwork for the Hanford Medical Department.

In April 1943 Dr. P.A. Fuqua, also from the Kankakee Ordinance Plant, joined Dr. Norwood at the Chicago and Clinton (Oak Ridge) laboratories. They were transferred to Hanford in the spring of 1944. In July of the same year H.M. Parker was transferred to Hanford and became the chief supervisor of the Health Instrument (HI) Section in the Hanford Medical Department. Dr. Cantril came to work at the Hanford Medical Department in September 1944.

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RAD CONTROL (continued from page 4)

The original plans for Hanford Included only a small "hazards engineer" group assigned to the Technical Department for radiation control. This group's functions were envisioned as being similar to conventional production plant safety engineers or inspectors. However, the experience of the du Pont staff and both Cantril and Parker at the Clinton and University of Chicago Laboratories indicated that a much larger, technically oriented group was required. As a result, Parker proposed a staff of 138 for the HI Section for radiation control at HEW.

Upon his arrival at Hanford, H.M. Parker, now the Chief Supervisor of Health Instruments divided the HI section into three groups: survey, personnel meters, and special studies.

Individuals were provided a quick orientation course at the Clinton laboratory, and by September 1944, 14 people had completed the course and were sent to Hanford.

Rapid growth took place within the Medical Department and the Health Instruments Section from March 1944 to June 1945, as shown in the periodic personnel totals below.

Medical Department

March 1944	8
December 1944	278
January 1945	311
June 1945	382

Health Instruments Section

August 1944	27
December 1944	98
January 1945	104
June 1945	155

In November 1944, Dr. Cantril issued *Responsibilities of Health Group for Radiation Safety*, a document that reported the agreements that had been established for radiation control.

The document laid out responsibilities for maintaining radiation within safe limits in the operating areas and clear definition of roles and responsibilities for each organization (Operating, Maintenance, Health Instruments, and the Medical Department).

On December 31, 1945 Dr. Cantril left Hanford to return to Swedish Hospital in Seattle; but he continued to serve as a consultant for Hanford. H. M. Parker was made an Assistant Superintendent in the Medical Department, a promotion which further upgraded the importance and emphasis on radiation protection functions.

OPERATIONAL PROCEDURES

With the ability for large-scale irradiation of uranium metal and separation of radioisotopes, the need for large-scale radiation protection never before considered was thrust upon the people working at Hanford.

In November 1944, a Special Hazards Committee was appointed as a subcommittee of the Hanford Central Safety Committee. The Hanford Central Safety Committee and Special Hazards Committee reviewed various phases of radiation hazards and issued Special Hazards Bulletins (SHBs)in the early part of 1945. The SHBs were periodically reviewed and revised to utilize the increasing experience and knowledge in the radiological sciences. The use of general terms such as "danger zones" and "special hazard zones" became less appropriate. A need for a detached and professional application Of Hanford's radiation protection policies and practices arose

(continued page 6)

RAD CONTROL (continued from page 5)

with increased competence in radiation protection and with the National Council on Radiological Protection (NCRP) recommendations.

Soon after his arrival at Hanford, Parker introduced innovative operational controls for work with radiation; one of these was the Special Work Permit (SWP). This control form was completed prior to starting any radiation work in order to define the task, identify locations, and specify the type of special protective measures that would be required for the duration of the permit.

The SWP was used throughout Hanford for many years until it was phased out and replaced by more broad working procedures and control methods developed from operational experience. For many years, the protective apparel and equipment used in the production and laboratory areas had the nickname of "SWP's". *Incidentally that nickname stuck until it was replaced with Personal Protective Equipment or "PPEs" in the mid to late 1980s.*

As a result of the expertise and knowledge of H.M. Parker and Dr. Cantril and other pioneers in the field of radiation protection, Hanford has maintained an excellent record of control and exposure to Health Physics and laid the groundwork for other Department of Energy sites throughout the country and worldwide.

For further Info, Comments, and/or a brief Bio of Herbert Parker, Mr. Marsh may be contacted at pkeeper55@hotmail.com

SAVING THE ORCHARDS AT HEW

by Burt Pierard, BRMA Historian

The Army Corps of Engineers and their Prime HEW Contractor, duPont, have been given a "bum rap" by historians. All the historical accounts, of which I am aware, criticize the Manhattan Project for evicting the farmers from the Project without consideration for maintaining their crop production during Wartime food shortages. According to the DuPont "History of the Project" and the "Matthias Diary," the exact opposite is true.

The Government initiated the first Condemnation Proceeding for Area "A" (176,000 acres, south and west of the Columbia River) that was awarded on February 23, 1943. This was done to obtain immediate permission to possess any of the entire acreage with a minimum of delay and inconvenience to all concerned. The results of an Army initiated survey carried on in connection with crop production in Areas "A" and "D" (between Richland and the 300 Area), showed that 1500 acres of producing orchards were in good condition and it was deemed necessary that they be retained (except those within a 2 x 4 mile area around the production areas). These 1500 acres would yield approximately 2000 tons of crops which were considered valuable to the war effort when harvested.

On March 12, 1943, Col. Franklin Matthias and Real Estate Division officials met to discuss plans to avoid disruption of food production. They decided to permit all farmers in the area (except those limited above) to plant and harvest. DuPont was in charge of maintaining the irrigation canals and pumps. Any orchards that were abandoned were to be leased to nearby farmers for continued cultivation and production.

On March 26, 1943, public meetings were held at White Bluffs and Richland to describe the most important areas to be vacated by April 28, 1943. Businesses, businessmen and their families, and school teachers and their families were allowed to remain until so notified. Owners and occupants of the rest of Area "A" vacated by May 31, 1943. Owners and occupants of Area "D" (between Richland and the 300 Area) were allowed to remain until the end of the current crop year to harvest their crops.

This co-operative of farmers tending and harvesting their own crops with the irrigation support from duPont existed through the crop year, 1943. On July 7, 1943, Mr. Squier and Mr. Brock from Federal Prison

(continued page 7)

ORCHARDS (continued from page 6)

Industries (FPI), McNeil Island Federal Prison, came in to meet with Matthias. Mr. Spier generally outlined the activities of FPI, pointing out that all the food produced and canned, was distributed by the National Food Administration, principally to the Army-Navy supply. He suggested that FPI would be willing and ready to assume all responsibility for the orchards and other agriculture property in the area at no cost to the Army. This was obviously appealing to Matthias. Spier said he will consult with his principles in Washington, D.C. and will submit a proposal in writing to establish a permanent Honor Farm Camp and permanent operating activities of FPI.

Later in July, 1943, arrangements were consummated between duPont, the Area Engineer (Matthias), and FPI, to harvest the agricultural yield within the Project Area, including vegetables as well as fruit. The agreement provided for the cultivation and preservation of orchards and agriculture products. The agreement also provided that FPI take the entire yield to prison factories and later make distributions.

COLUMBIA CAMP

A site was selected for Columbia Camp in a remote area along the Yakima River, just above the Horn Rapids Dam and camp construction started later that month. FPI furnished the material and labor while duPont supplied miscellaneous services and transportation to and from the fields. FPI provided trucks and lug boxes to transport the product to McNeil Island.

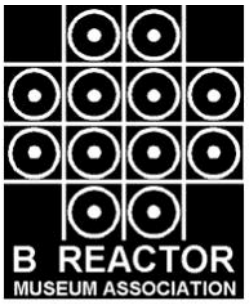
The inmates, who were all minimum security prisoners with less than one year remaining on their sentences, were housed in tents (later in Quonset hut barracks) and fed at a mess hall established at the Camp Site. Administrators, prison guards, and their families were housed in smaller Quonset huts or residences in Richland. All inmates, guards, and others employed in the undertaking were cleared by the Protective Security Unit before they were permitted within the project area. The identical rules and restrictions limiting Project employees applied.

Electric power for lighting and cooking utensils was furnished by four portable generators. Water for drinking and cooking purposes was drawn from the river and purified in a mobile purification unit. Outside toilets were constructed and bathing facilities were provided.

Columbia Camp officially opened February 1, 1944 and closed as a prison camp on October 10, 1947. It was used as temporary contractor quarters until Spring 1950 when all buildings were moved or sold as excess.

Columbia Camp ~ just after opening ~ 2-12-44

GET YOUR COVID-19 VACCINATION!!!



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