TOWARDS A MANHATTAN PROJECT NATIONAL HISTORICAL PARK

ANNUAL REPORT 2011
WHY SHOULD WE PRESERVE THE MANHATTAN PROJECT?

"The factories and bombs that Manhattan Project scientists, engineers, and workers built were physical objects that depended for their operation on physics, chemistry, metallurgy, and other natural sciences, but their social reality - their meaning, if you will - was human, social, political. . . . We preserve what we value of the physical past because it specifically embodies our social past. . . . When we lose parts of our physical past, we lose parts of our common social past as well."

"The new knowledge of nuclear energy has undoubtedly limited national sovereignty and scaled down the destructiveness of war. If that's not a good enough reason to work for and contribute to the Manhattan Project's historic preservation, what would be?"

-Richard Rhodes, "Why We Should Preserve the Manhattan Project."
Bulletin of the Atomic Scientists, May/June 2006

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Front cover: Secretary of the Interior Ken Salazar tours the B Reactor with Governor Chris Gregoire, Senator Maria Cantwell and Representative Doc Hastings in September 2011. Photo Courtesy of Paul T. Erickson, Tri-City Herald.
Dear Friends:

The Atomic Heritage Foundation (AHF) celebrates its ninth year with high expectations that the 112th Congress will enact legislation to designate a Manhattan Project National Historical Park. On July 13, 2011, the Department of Interior, joined by the Department of Energy, transmitted formal recommendations to Congress to create a Manhattan Project National Historical Park.

The new Manhattan Project Park will have units at Los Alamos, NM, Hanford, WA and Oak Ridge, TN. Over time, a number of affiliated areas could be created at the Trinity Site in southern New Mexico, University of Chicago, University of California at Berkeley, Wendover Air Force Base in Utah, Tinian Island and other sites.

In the meantime, the Atomic Heritage Foundation is continuing its work to preserve key properties. A top priority has been to advocate that at least a portion of the mile-long K-25 plant in Oak Ridge is preserved. Last year, the Department took a "second look" at the K-25 plant. However, on November 17, 2011, Department of Energy's John Eschenberg said that saving a portion of this once mile-long structure was “imprudent.” He did not embrace the recommendations by Degenkolb Engineers to save two cells or 1/25th of the original mile-long plant but instead determined the most practical course was to take it all down.

The Atomic Heritage Foundation understands why the Department of Energy and its contractors want to complete the demolition of the K-25 plant. Over one billion dollars have already been spent on this project. However, a decision to demolish the entire plant will irreversibly destroy an important icon of American and world history. Given the avoided costs of demolition and disposal, saving an authentic piece could be the most cost-effective mitigation option and creates something of lasting value for the City of Oak Ridge, Tennessee and the nation.

Thanks to our many collaborators in Oak Ridge and the Tri-Cities, we have new guidebooks to the Manhattan Project sites in Tennessee and Washington. These two join our guides to New Mexico and New York City. Inspired by travel guidebooks, the colorful 60-plus page guides provide maps, history, photographs and lively first-hand accounts from Manhattan Project participants.

Next year we look forward to making further progress in restoring and preserving authentic properties that will be part of the future national historical park. Through conferences and workshops, we will be exploring how best to interpret the Manhattan Project and its legacy, working with the National Park Service, Department of Energy, State and local governments, nonprofits and others interested in the preservation of the Manhattan Project.

We are deeply grateful to the individuals, foundations, government agencies and companies who have supported our efforts. After nearly a decade, we are close to realizing the goal of a Manhattan Project National Historical Park. Thank you very much for your continued support.

Sincerely,

Cynthia C. Kelly
President
MANHATTAN PROJECT SITES: 
PAST AND PRESENT

HANFORD, WASHINGTON

Background Information

Hanford, WA was selected as the location for plutonium production in December 1942 and named “Site W.” The half-million-acre site was isolated and had sufficient transportation links, water and energy for the massive undertaking. Construction crews arrived in the summer of 1943. The B Reactor initially went critical on September 27, 1944, and the first irradiated slugs were discharged on December 25, 1944. The plutonium produced at Hanford fueled the “Fat Man” bomb dropped on Nagasaki on August 9, 1945.

Recent Updates

The big news is the recent $165,000 grant from the M. J. Murdock Charitable Trust (see page 13). Among other things, we will produce new vignettes to complement those developed for the B Reactor in 2005. The vignettes will focus on Hanford’s history and its legacy.

Thanks to Watson Warriner and Clay Perkins, one locomotive behind B Reactor will have a fresh coat of orange and black paint next year.

LOS ALAMOS, NEW MEXICO

Background Information

Los Alamos, NM, code-named “Site Y,” was the top-secret scientific laboratory for the Manhattan Project. Isolated on a mesa north of Santa Fe, Nobel Prize winners collaborated with young scientists to harness nuclear fission and produce a weapon of enormous force. After the July 16, 1945, Trinity test in Alamogordo, NM, proved successful, the world’s first atomic bombs were ready to be used to end the war against Japan on August 6 and 9, 1945.

Recent Updates

The Atomic Heritage Foundation continues its work to preserve key Manhattan Project properties in New Mexico. We are working with the Los Alamos National Laboratory on restoration of the Gun Site and with the Los Alamos Historical Society on interpreting the Oppenheimer House. Exploration has begun to determine whether 109 East Palace in Santa Fe, Dorothy McKibbin’s office and the gateway for Manhattan Project recruits, could be preserved and interpreted.

OAK RIDGE, TENNESSEE

Background Information

Oak Ridge, TN, was the first site selected at the end of 1942 and code-named “Site X,” or the Clinton Engineer Works. Workers built facilities using three different techniques for separating the isotopes of uranium. The K-25 plant used the gaseous diffusion method, the X-12 plant the electromagnetic method and the S-50 plant used the thermal diffusion method. All three techniques eventually contributed to producing the enriched uranium for the first atomic bomb.

Recent Updates

On November 17, 2011, the Department of Energy convened a consulting parties meeting on the mitigation plan for the iconic K-25 plant. Unfortunately, the Department of Energy announced that it intended to demolish the entire structure. Last year, Degenkolb Engineers proposed saving a small piece as a cost-effective option so that future generations could experience a portion of this unique historical structure.

PRESERVING ORAL HISTORIES

This fall, the Atomic Heritage Foundation and the Los Alamos Historical Society were the recipients of an Institute for Museum and Library Services (IMLS) grant. We will be digitizing and creating a website for our joint collection of oral histories and their transcripts. Eventually we hope to include or link to other Manhattan Project oral histories.

In addition, this summer we captured six additional veterans’ recollections of the Manhattan Project and amassed over ten hours of additional video footage. Among our interviewees were:

Anne McKusick. As a former Manhattan Project physicist at Y-12, Dr. Anne McKusick discussed daily life at Oak Ridge, her role as a woman scientist, and secrecy in Oak Ridge, TN, during the war. Her video is available on our YouTube channel.

Ben Bederson. Dr. Ben Bederson, a retired NYU professor of physics and former editor of the American Physics Society, discussed his experiences in Oak Ridge and Los Alamos. As a member of the SED (Special Engineer Detachment), Bederson worked for George Kistiakowsky and Don Hornig on the switches for the plutonium bomb at Los Alamos.

Harris Leever. Harris “Hal” Leever, a young scientist at University of Chicago, worked under renowned scientists Enrico Fermi and Edward Teller. He recalled the secrecy surrounding the Manhattan Project’s development in Chicago and working with Fermi and Szilard during the first stages of atomic research at the University of Chicago.

Watson Warriner. Watson Warriner, an employee of Dupont since 1939, worked at Hanford as an engineer. He explains the history of the B Reactor, the first large scale nuclear reactor, and his work on the chemical separations plant. A train buff, Warriner remembers riding on the train from Wilmington, Delaware across the country to work at Hanford, “a journey to destiny.”

AHF also traveled to Providence, RI, to interview Lilli Hornig, a Los Alamos chemist. We are planning to add more veterans to our oral history collection in 2012.

2011 ORAL HISTORY EXCERPTS

Dr. Anne McKusick

“It was absolutely unforgettable. We said at the time that this was something we’d tell our children about. And we knew that we were working on something tremendously exceptional. It hadn’t been done before. And I think it was such an exciting time of life. It truly was, for young people. It was a most wonderful experience.”

Dr. Ben Bederson

“I was invited to a meeting where George Kistiakowsky, head of the Explosives Division, simply told us what we were doing! That was a memorable moment of my life because he laid out the whole history of the discovery of nuclear fission, the bomb, the Manhattan Project, the bomb at Los Alamos, and the bomb at Oak Ridge.”

Harris Leever

“Dr. Szilard was not easy to get along with, but my office was located alongside the garden of Edgar Hall. Dr. Szilard, on his way to the office, used to stop and pick the leaves in the garden. What was he thinking about? Who knows? He was a genius.”

Watson Warriner

“When they were building the Hanford Engineer Works, most of the locomotives we were using in those days were big steam locomotives. But when the plant started up, people wanted to use diesel locomotives. As a matter of fact, they are much easier to handle, as they don’t need water put in them.”
AHF RELEASES TWO NEW MANHATTAN PROJECT GUIDEBOOKS

What took place in the remote hills of East Tennessee in the 1940s changed our world. This remarkable book tells a uniquely American story of ingenuity and dedication.
—E. Patrick McIntyre, Jr., Tennessee Historical Commission

A Guide to the MANHATTAN PROJECT
in TENNESSEE
CYNTHIA C. KELLY with an introduction by RICHARD RHODES

After the enthusiastic reception of the Guide to Manhattan Project Sites in New Mexico in 2010, the Atomic Heritage Foundation is proud to announce the publication of The Guide to the Manhattan Project in Tennessee and The Guide to the Manhattan Project in Washington State. These two guides are filled with colorful pictures and compelling stories. Readers learn about the unique properties designed to produce the key ingredients for the atomic bomb, enriched uranium in Tennessee and plutonium in Washington State.

The Guide to the Manhattan Project in Tennessee opens with a brief introduction to atomic science and provides background information on the reasons why Tennessee was selected as one of the three main sites for the war effort. Starting with the story of a mystic envisioning Tennessee as a main war-effort production site to the massive dams built by the TVA in the early 1930s, readers discover the role that geography plays in shaping local and national histories.

The guidebook also benefits from some of the 10,000 photographs taken by Ed Westcott. The government’s official photographer, Westcott deftly captured the spirit of the times. Below are young Manhattan Project participants taking a break at the Wildcat Den, one of several recreation facilities at Oak Ridge.

“Clinton Engineer Works”, the first section in the guidebook, offers readers a full account of the early days in Oak Ridge and Knoxville. As the main entry point for Manhattan Project civilian workers, Knoxville became known after the war as the “Gateway to Oak Ridge.”

“Production Plants” brings readers to the four experimental facilities designed to produce plutonium or uranium. The X-10 graphite reactor was a model for Hanford’s full-scale plutonium production reactors. The Y-12 electromagnetic separation plant, the K-25 gaseous diffusion plant, and the S-50 thermal diffusion plant were three different approaches to separating the isotopes of uranium. To produce sufficient uranium-235 for the first atomic bomb dropped on Hiroshima, all three production plants were put to use.

“The Manhattan Project” section also explores the contributions of African Americans to the effort and the emergence of women in the workforce. Most rewarding are the personal stories of the people who contributed to the success of this extraordinary scientific and engineering undertaking.

Within three years, over 150,000 people arrived to work at the remote, top-secret site. Many did not like the isolated frontier conditions and left shortly after arriving. Hanford was the primary site for plutonium production. Spread out across the vast 625-square mile site were three major operations: fuel fabrication, reactor operations, and chemical separation. Most of the work on fuel fabrication took place in the 300 Area in the southeast part of the site nearest the town of Richland.

The reactor operations were some 20 miles away in the 100 Area along the northern stretch of the Columbia River. Finally, the chemical separation processing was 10 miles south of the reactors in Area 200. There plutonium was extracted in separation facilities.

Many officials have provided comments for the jacket of the guidebook. Senator Maria Cantwell wrote, “This guide will help current and future generations understand both the scientific contributions and enormous sacrifices made by those who labored at the B Reactor during its remarkable run.” Gary Peterson, Vice-President of TRIDEC, wrote that “visitors to the Tri-Cities from all over the world can use this guidebook to make the most of the region’s historic sites, and help them appreciate the world-changing events that took place there.”

The two guidebooks anticipate the rise of atomic tourism. In July 2011, the Department of Interior, joined by the Department of Energy, recommended that Congress designate a Manhattan Project National Historical Park at Los Alamos, NM, Oak Ridge, TN, and Hanford, WA.

The New York Historical Society will open an exhibition on World War II in Manhattan in December 2012. Part of the exhibit will be drawn from AHF’s book.

For more information about our guidebooks and products, please visit our online store at http://www.atomicheritage.org, Amazon.com, or call 202-293-0045 to place an order.
AHF HOSTS THIRD TEACHERS’ WORKSHOP

On Sunday, June 19, 2011, teachers from all over New Mexico arrived at St. John’s College in Santa Fe for the Atomic Heritage Foundation’s third annual professional development workshop.

Through lectures, discussions and tours, the teachers spent the next four days exploring the history of the Manhattan Project.

Teachers heard from prominent historians, scholars, and authors about the role of New Mexico in World War II and explored the social, cultural, political, and military implications of the Manhattan Project and its legacy for the 21st century.

Presenters at the workshop included: Jon Hunner of New Mexico State University, Edward “Cas” Milner of Southern Methodist University, Nancy Bartlit, author of Silent Voices of World War II, and Cindy Kelly, editor of The Manhattan Project.

As part of the program, teachers also visited the New Mexico History Museum, toured significant Santa Fe sites, and saw an exclusive performance of Manhattan Glass, a play about complex personal legacies from the secret wartime effort in Los Alamos.

After a two-day stay in Santa Fe, teachers toured the “behind-the-fence” Manhattan Project historic properties that are now being restored for a prospective Manhattan Project National Historical Park, and visited the Bradbury Science Museum, Oppenheimer House, Bathtub Row, Ashley Pond, and Romero Cabin.

During these tours, knowledgeable guides discussed the local history of Los Alamos and its enduring legacy for the 21st century. Los Alamos National Laboratory officials further presented the technologies that the Manhattan Project inspired labs were working on today.

Teachers were eligible to receive honoraria and one graduate course credit from the University of New Mexico. They added significantly to the lesson plans and curriculum ideas included in the AHF’s “Atomic Wiki.”

Thanks to the following for supporting this valuable the workshop:

+ The U. S. Department of Energy
+ The National Nuclear Security Administration,
+ Los Alamos National Bank,
+ Los Alamos National Security, LLC, and
+ Los Alamos County Council.

In addition, the Atomic Heritage Foundation would like to thank the Los Alamos Historical Society, Bradbury Science Museum, Los Alamos National Laboratory, and New Mexico History Museum for generously supporting the program with lectures and tours.

Depending on funding, we may offer a similar course sometime in the future. For more information on the workshop, please call 202-293-0045 or email at info@atomicheritage.org.

Sample Day in the Workshop

Welcome and Introduction to the Manhattan Project
7:30 a.m. Breakfast in the dining hall
8:00 a.m. Registration Opens
9:30 a.m. Welcome and Introductions and “Sense of Place” screening
10:30 a.m. Overview of the Manhattan Project and Its Legacy (Cindy Kelly)
12:00 p.m. Lunch in the dining hall
1:15 p.m. Life at Los Alamos (Jon Hunner)
2:30 p.m. Break
2:45 p.m. Science and the Bomb (Cas Milner)
4:00 p.m. Campus Tour (optional)
5:00 p.m. Dinner in dining hall
6:15 p.m. Leave for Teatro Paraguas
7:00 p.m. Teatro Paraguas production of Joey Chavez’s “Manhattan Glass” 3221 Richards Lane, Santa Fe, NM
NATIONAL LEGISLATION UPDATES

Recent Developments

On July 13, 2011, the Department of Interior (DOI), with concurrence from the Department of Energy (DOE), transmitted to Congress recommendations for a Manhattan Project National Historical Park. The recommendations are for a national historical park at the three major Manhattan Project sites of Los Alamos, NM, Oak Ridge, TN, and Hanford, WA. Over time, a number of affiliated areas could be created at the University of Chicago, University of California at Berkeley, Wendover Air Force Base in Utah, the Trinity Site at Alamogordo, NM, Dayton, OH and Tinian Island.

The Atomic Heritage Foundation has been actively involved in promoting a Manhattan Project National Historical Park for the last ten years. The first step was to secure Congressional legislation in 2004 requiring a formal study by the National Park Service. The study’s recommendations in July 2011 were a major milestone.

By early 2012, House and Senate staff expect to have proposed legislation. In anticipation of a Manhattan Project National Historical Park, the Atomic Heritage Foundation is working on developing a national traveling exhibition on the Manhattan Project and its legacy. Oral histories will provide audiences with first-hand accounts from Manhattan Project participants. Taking an interdisciplinary approach, the exhibition will focus on the Manhattan Project as a case study for considering the impact of science on society.

A Park for Posterity

Over the past decade, the Foundation has been fortunate to work in partnership with Federal, State and local governments, historical societies, academia, and corporate and nonprofit organizations. When future generations look back on the 20th century, the harnessing of nuclear energy will be recognized as a turning point in modern history. We seek to create a park and preserve some of the authentic properties of the Manhattan Project for posterity.

2003

President George W. Bush issues Executive Order called “Preserve America” to preserve important Federal historic properties.

Congress requires the Department of Energy to develop a plan for preserving MP historical sites.

2004

Congress passes the Manhattan Project National Historical Park Study Act that authorizes the National Park Service to study whether to create a Manhattan Project National Historical Park.

2006

The V-Site Restoration is completed with collaboration among the DOE, LANL, and New Mexico.

2009

The National Park Service recommends a Manhattan Project National Historic Park at Los Alamos, New Mexico but not at Oak Ridge, Tennessee, Hanford, Washington or Dayton, Ohio.

2010

The Tennessee Trust for Historic Preservation names the K-25 plant as one of the state’s ten most endangered historic sites.

2011

On July 13, 2011, the Department of Interior, with concurrence from the Department of Energy, transmitted recommendations to Congress for a Manhattan Project National Historical Park. Committee staff are working on legislation to be introduced in early 2012.

AHF REVAMPS WEBSITE

AHF Invests in Upgrading Website

This year, the Atomic Heritage Foundation made considerable improvements to its website, Atomic Wiki, YouTube channel, and monthly newsletter.

Our website has a new design, logo, and organization. Users can now easily access our basic information, newsletter and annual report archive, see frequent updates on relevant Manhattan Project related news, and track the progress of major projects. They can also view a newly revamped Manhattan Project directory with veteran profiles under the “Resources” section. Please check out our user-friendly platform.

The Department of Energy has supported the past three years of teachers’ professional development workshops on the Manhattan Project. As part of the project, the Atomic Heritage Foundation has compiled educational resources for teachers and the general public. Our new Atomic Wiki site provides one-stop shopping for teachers and others interested in the Manhattan Project.

We have organized the materials in four modules and categorized each lesson plan by grade level and subject. We have expanded our background historical information section and added resources for students doing research on the Manhattan Project. Please take a moment to look through our new Atomic Wiki, and send us your feedback to info@atomicheritage.org. The site is a work in progress which we plan to enhance in partnership with other organizations in the coming years. The site should be a valuable resource on the Manhattan Project once the new park is designated.

Additionally, we have added a variety of video materials on our YouTube channel (http://www.youtube.com/user/AtomicHeritage). The selections include excerpts from oral histories and educational lectures from past workshops. This is also an area that we hope to expand upon significantly with a grant received from the Institute for Museum and Library Services. Working in partnership with the Los Alamos Historical Society, we plan to digitize our oral history collections and make them more accessible to the public online.

In addition to launching a new platform for our web and wiki resources, we have introduced monthly newsletters distributed by email. To sign up for the newsletter, please visit the home page at www.atomicheritage.org. You may also access past newsletters from the home page.

The Atomic Heritage Foundation would like to give special thanks to Clay and Dorothy Perkins for supporting our efforts to upgrade the website. Further thanks to Monika Adamczyk for her leadership on this project and Yale University interns David Tidmarsh and Carolyn Lipka for their many contributions.
ADDITIONAL UPDATES

**KELLY ON COLD WAR PANEL**

In 2009, Congress authorized a National Historic Landmark Theme Study on the Cold War. In November 2010, AHF President Cindy Kelly was officially named to the Presidential Advisory Committee for the Cold War Sites Theme Study to identify sites and resources in the United States that are significant to the Cold War.

On May 23, 2011, the Committee considered specific Cold War properties for inclusion in the National Park System as national historical landmarks. Cindy provided an initial list of Cold War properties at Hanford, Oak Ridge, Los Alamos, Savannah River Site and other sites, consulting with the Department of Energy and local historical societies. The National Park Service will complete a revised draft of its study in early 2012.

**GROVES STATUE DEDICATED**

Thanks to seven years of effort by Nancy Bartlit working tirelessly with the Fuller Lodge/Historic District Advisory Board and others, the County of Los Alamos dedicated two life-size statues of General Leslie R. Groves and Dr. J. Robert Oppenheimer in front of the Fuller Lodge in May 2011. The life-size statues are modeled after the picture taken at ground zero at the Trinity Site in September 1945. Suzanne Vertel of Santa Fe is the sculptor.

**B REACTOR GUIDE**

As the first plutonium production reactor built during the Manhattan Project, the B-Reactor at Hanford produced the fuel for the Trinity Test and the “Fat Man” bomb dropped on Nagasaki. The Atomic Heritage Foundation updated its 44-page publication, “B Reactor: First in the World”, an overview of Hanford’s history that features the B reactor and life during the Manhattan Project. To order a copy, go to our store at www.atomicheritage.org.

**MURDOCK GRANT AWARDED**

The Atomic Heritage Foundation is pleased to announce a $165,000 grant awarded by the M.J. Murdock Charitable Trust in November 2011. In the first phase, AHF will use the grant funds for: (1) publication of the “Guide to the Manhattan Project in Washington State,” (2) filming of veterans and development of vignettes on the Manhattan Project and its legacy at Hanford, (3) design of a website for Hanford Project oral histories and (4) a model of the 100-B Reactor compound area.

The second phase of the project will focus on the preservation of the existing Bruggemann ranch property, an impressive example of the ingenuity of Hanford’s early agricultural settlers. By 2014, the plan is to restore the property and create an interpretive center at the site.

**CONTACT AHF**

Come visit us at:

Atomic Heritage Foundation
910 17th Street NW, Suite 408
Washington, DC 20006

Please call us at 202-293-0045 or email us at info@atomicheritage.org.

Thank you for your interest!

**SUPPORT AND PRODUCTS**

AHF SEeks your Support!

The Atomic Heritage Foundation is working to preserve properties of the Manhattan Project, capture oral histories, and ensure that this history and its lessons for today are not forgotten. Most importantly, we are working towards a Manhattan Project National Historical Park. Help make the park a reality and write a check to “Atomic Heritage Foundation,” donate online or call us. Thanks very much!

**BOOKS AND PUBLICATIONS**

The AHF has published a variety of books and educational resources on the Manhattan Project. All of these publications are available through our store and on Amazon.com. The following are our most recent publications:

- The Manhattan Project: The Birth of the Atomic Bomb in the words of its Creators, Eyewitnesses, and Historians.
- Remembering the Manhattan Project: Perspectives on the Making of the Atomic Bomb and Its Legacy.
- A Guide to Manhattan Project Sites in Manhattan
- A Guide to Manhattan Project Sites in New Mexico
- A Guide to the Manhattan Project in Tennessee
- A Guide to the Manhattan Project in Washington State

**FILMS AND MULTIMEDIA**

In addition to our books and publications, the Atomic Heritage Foundation has also produced a number of documentary films and multimedia on the Manhattan Project. Products available on our online store include:

- The Uncommon Man: Crawford H. Greenewalt
- A Sense of Place: Preserving the Manhattan Project at Los Alamos
- Hanford’s Secret Wartime Mission
- Nuclear Pioneers
- Interviews with Manhattan Project Veterans Volumes I, II, and III
- Race for Atomic Power: The Story of the National Reactor Testing Station in Idaho Falls