Atomic Heritage Foundation

A nonprofit corporation dedicated to preserving the history of the Manhattan Project and the Atomic Age

Annual Report

July 2003-July 2004

DuPont’s Crawford Greenewalt is featured in AHF’s documentary, “Hanford: Secret Mission Accomplished (1942-1945)”

The house where J. Robert Oppenheimer lived was dedicated as part of the “Oppenheimer & The Manhattan Project” events.

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(article courtesy of Albuquerque Journal North)

Board Members of the Atomic Heritage Foundation

Richard Rhodes
Richard Rhodes is the Pulitzer-prize winning author of *The Making of the Atomic Bomb* and *The Dark Sun* as well as twenty-two other books. He has written extensively about nuclear issues and lectured widely in the United States and abroad. In addition, he has served as Advisor, Alfred P. Sloan Foundation, since 1990, Fellow, Program on Peace and International Cooperation, MacArthur Foundation, 1990-1991, Visiting Scholar, History of Science Department, Harvard University, 1989-1990, Visiting Fellow, Defense and Arms Control Studies Program, Massachusetts Institute of Technology, 1988-1989, as well as numerous other positions. He has a *cum laude* bachelor’s degree from Yale University in history.

John D. Wagoner
John D. Wagoner served as Manager of the Department of Energy’s Richland Operations Office (Hanford) for nearly ten years, and is currently Vice President for Nuclear Programs, Archimedes Technology Group in San Diego. Trained as a nuclear engineer, John Wagoner served in the Naval Reactors Division of the US Navy before joining the Atomic Energy Commission and then the Department of Energy. He has a bachelor’s degree in industrial economics from Purdue University.

Cynthia C. Kelly
Cynthia C. Kelly is the founder and President of the Atomic Heritage Foundation. Before creating the Foundation, she served over twenty years as a senior executive with the Department of Energy and Environmental Protection Agency and received the Distinguished Career Service Award. A history major at Wellesley College, Ms. Kelly earned a Masters degree from Yale University and taught history before her career with the Federal government.
Letter from the President

Cynthia C. Kelly, President of the Atomic Heritage Foundation

Investing $2 billion to build an atomic bomb in the midst of World War II was a serious gamble. While physicists understood that enormous energy was released when an atom was split, harnessing that energy was an immensely complex challenge. The odds of accomplishing this feat before the end of the war were slim.

When General Groves decided to choose Oppenheimer to lead the project, most who knew Oppenheimer were skeptical of this choice, noting his lack of management experience and theoretical rather than practical bent. However, Oppenheimer quickly proved himself to be a superb manager and intuitive problem-solver.

In just 27 months, the atomic bomb was successfully designed, built and delivered. The government’s $2 billion gamble paid off, bringing an end to World War II and establishing the United States as a Superpower.

Preserving some of the tangible properties of the Manhattan Project continues to face long odds. Across the nation, most of the remaining properties from the Manhattan Project are slated to be demolished as part of the environmental cleanup of the nuclear weapons complex.

To understand world politics, economics and society today, we must understand the history of the atomic bomb and its legacy. Having some of the tangible remains of the Manhattan Project will help the public experience the enormity and path-breaking nature of the effort and come to terms with its resounding impact on our lives.

The odds against preservation may be long, but this is too important a chapter of history to abandon. The Atomic Heritage Foundation is forging partnerships to preserve the Manhattan Project history and help people better understand the world we live in. We hope that you will join us in this endeavor.

The Advisory Committee for the Atomic Heritage Foundation

2003-2004


U.S. Senator Jeff Bingaman, New Mexico (4th term, Democrat). Chairman of the Energy and Natural Resources Committee.

Andrew Brown, physician and science journalist, author of The Neutron and the Bomb, a biography of Sir James Chadwick, discoverer of the neutron and head of the British Mission in World War II.


U.S. Senator Pete Domenici, New Mexico (6th term, Republican). Ranking Member of the Budget Committee.

James E. Drewry, President of the American Science and Energy Museum Foundation, Oak Ridge, TN, most recently served as Executive Vice President and COO of the Oak Ridge Associated Universities, Oak Ridge, TN (1990-2001).

Robert L. Ferguson, Chairman and CEO of Nuvotec, Inc. Previously CEO of the Washington Public Power Supply System, B Reactor supervisor with General Electric, and Deputy Assistant Secretary—Nuclear and Director of the FFTF Project Office with the Department of Energy.
**Atomic Heritage Foundation**

**Robert W. Galvin**, founder and Chairman Emeritus of Motorola, Inc.


**Gregg Herken**, historian and the Curator of Military and Space History at the Smithsonian and author of four books on nuclear history including *Brotherhood of the Bomb: The Tangled Lives and Loyalties of Robert Oppenheimer, Ernest Lawrence, and Edward Teller* (2002).

**William J. Madia**, currently Executive Vice President, Battelle Memorial Institute, former Director of Oak Ridge National Laboratory and President and CEO of UT-Battelle, LLC.


**A. R. Oppenheimer**, nuclear weapons expert and consultant on weapons of mass destruction for governments and institutes in Britain, where he is based, and the United States.

**Jerry L. Rogers**, former National Park Service Associate Director for Cultural Resources and Keeper of the National Register of Historic Places, now President of the New Mexico Heritage Preservation Alliance.


**David J. Simon**, Director, New Mexico State Parks Division, New Mexico, and formerly with the National Parks Conservation Association (1985-2001).

**Eugene B. Skolnikoff**, Professor of Political Science Emeritus at the Massachusetts Institute of Technology and long-time student of science and government issues, including service on the White House staff of the Science Adviser to the President in the Eisenhower, Kennedy and Carter administrations.

**Michael L. Telson**, former CFO of the Department of Energy (1997-2001) and Special Assistant to the Deputy Secretary of the Department of Energy (1995-1997); previously worked for the Committee on the Budget of the U.S. House of Representatives and currently with the University of California.

**Arnold Thackray**, president of the Chemical Heritage Foundation, which is dedicated to the history of chemistry through its museum, traveling exhibits, educational materials, books and newsmagazine, grants; oral histories; and public events.

**U.S. Congressman Zach Wamp**, Oak Ridge, TN (3rd District; 5th term, Republican). Member, Appropriations Committee.

**Manhattan Project Veterans**

**Benjamin Bederson**, Professor of Physics Emeritus at New York University and Editor-in-Chief Emeritus, American Physics Society.

**Isabella Karle**, PhD in physical chemistry, worked at the Metallurgical Laboratory at the University of Chicago during the Manhattan Project. Currently, Senior Scientist at Naval Research Laboratory, Washington, D.C. National Medal of Science.

**Jerome Karle**, PhD in physics, worked at the Metallurgical Laboratory at the University of Chicago during the Manhattan Project. Nobel laureate, Dr. Karle is Chief Scientist for the Structure of Matter at the Naval Research Laboratory, Washington, D.C.


**Maurice Shapiro**, PhD in physics, visiting professor at U of Maryland and director of International School of Cosmic Ray Astrophysics. Worked at Los Alamos during the Manhattan Project.

**Ernest B. Tremmel**, B.S. in civil engineering, worked on the Manhattan Project and the Atomic Energy Commission from 1943 to 1950. In 1961 he was appointed Director of the Office of Industrial Participation.
The Atomic Heritage Foundation is a nonprofit corporation committed to public education and interpretation of the Manhattan Project and the Atomic Age. In his “Atoms for Peace” speech to the United Nations in December 1953, President Dwight D. Eisenhower stressed that every citizen of the world should have some comprehension of the power and potential of atomic energy as it is “of the utmost significance to every one of us.”

These words are equally true today as world politics revolve around nuclear weapons development and many other facets of life, from medical treatment to outer space exploration, involve nuclear energy. In keeping with the spirit of Eisenhower’s message, the Atomic Heritage Foundation’s primary objectives are to preserve the history of the Manhattan Project and the Atomic Age and help the public understand its significance for the twenty-first century.

The Manhattan Project, the top-secret effort in World War II to make an atomic bomb, has long been “largely invisible” to the American public. Enshrouded in secrecy for nearly sixty years, most of the Manhattan Project laboratories and production facilities at Los Alamos, New Mexico, Oak Ridge, Tennessee, and Hanford, Washington, are primarily “behind the fence,” where only those with security clearances are allowed. Out of public view, few people are aware that dozens of Manhattan Project properties now await demolition.

The Atomic Heritage Foundation is exploring ways to preserve some of the remains of the Manhattan Project and engage the public in understanding its significance and legacy for the 21st century. The vision is to create a national network of museums, traveling exhibits, educational programs and other resources that will build upon the history of the Manhattan Project and provide the public a better basis for weighing the scientific, technical, political, social and ethical issues that are the legacy of the Manhattan Project. At each site, some of the original properties and first-of-a-kind equipment will provide the public a glimpse of the scientific and engineering challenges of the enormous wartime effort.

The Manhattan Project has become shorthand for an intensive effort to tackle a seemingly insurmountable problem. What were the keys to its success? Could we launch another “Manhattan Project?” A national traveling exhibit, with related educational and other programs, will provide the public a better basis for answering these questions.

Utilizing Internet capabilities and distance learning, visitors will be able to access a variety of exhibits and educational programs. These programs will incorporate lectures, special exhibits, theatrical productions, and other events that draw from the resources of the national laboratories, area universities, repertory theaters and other institutions. The Atomic Heritage Foundation is working with each of the three major sites and many partnering organizations to realize this vision.

An Architect’s Proposal for Restoration of the “Little Boy” Site at Los Alamos, NM. The site could be restored as a conference facility and interpretive center for the Manhattan Project at Los Alamos.
The Atomic Heritage Foundation submitted a report to the Department of Energy on August 3, 2004, entitled “Preserving the Remains of the Manhattan Project.” The report presents priorities for action including for two of the most significant remaining properties that are threatened with decommissioning and demolition. The report is available at www.atomicheritage.org.

Taking steps now to preserve the threatened resources of the Manhattan Project is essential. Otherwise there may be little tangible evidence of the developments that brought an end to World War II and changed the course of human history. The report highlights some urgent issues and funding needs for preserving some properties, artifacts and other aspects of the Manhattan Project.

In order to fulfill the requirements in the 2002 Appropriations Act (H. R. 107-258), in August 2002 the Department of Energy awarded a grant to the Atomic Heritage Foundation to develop a plan for preserving the history of the Manhattan Project. An interim version of the plan was published in June 2003. Because studies were underway on several significant Manhattan Project properties, the Department of Energy granted the Atomic Heritage Foundation a one-year extension to incorporate the results of those studies and produce an updated report.

This report focuses on important preservation and funding decisions including:

- **The Manhattan Project National Historical Park Site Study Act of 2003** (S. 1687 and H.R. 3207): This study will identify alternatives to the Department of Energy’s stewardship of its significant Manhattan Project resources. If alternatives are not found, the B Reactor at Hanford and other icons of the Manhattan Project will be destroyed within the next few years.

- **Oral Histories of Manhattan Project Veterans**: Each year more Manhattan Project veterans are dying and the need to interview and record their histories is increasingly urgent.

- **Salvaging Important Artifacts**: First-of-a-kind equipment and artifacts, archival photographs and other Manhattan Project documents are being lost or threatened because of lack of funds for curation and proper storage.

- **The K-25 Gaseous Diffusion Plant**: A most urgent decision is whether to preserve the North End and some of the “footprint” of the K-25 gaseous diffusion plant. In April 2005, contractors will begin the $400 million process of destroying the entire facility by 2008.

In 2005, the world will recognize the 60th anniversary of the end of World War II. An investment towards the preservation goals outlined in the report would be a fitting tribute to those who worked “on the home front” for our nation’s security and the end of the war. Estimates for the funding needed for FY 2005 ($16.6 million) and subsequent years ($71 million) are presented in Appendix A of the report.

The report is a “work in progress” and will be updated as better data are available and further decisions are made at each site and nationally. The Atomic Heritage Foundation will publish periodic updates and welcomes comments.
$1 million in FY 2004 from Congress

Congress appropriated $1,000,000 in FY 2004 for the Atomic Heritage Foundation to preserve the properties, equipment, and other aspects of the history and legacy of the Manhattan Project.

Working with Federal, State and local governments and private and nonprofit organizations, the Atomic Heritage Foundation’s goal is to leverage these funds to the maximum extent possible. The Foundation will seek opportunities for matching support from foundations, corporations, individuals and other potential sources of funds.

The funds are to enable the Atomic Heritage Foundation and its partners to take priority actions including capturing oral histories, identifying artifacts and documents for preservation, developing museum exhibitions and documentary films. The goal is to save the rich scientific and technological heritage of the Manhattan Project history for future generations before it is lost.

Examples of the kinds of projects include:

Los Alamos, NM:
- Restore the Oppenheimer house, in partnership with the Los Alamos Historical Society and the Los Alamos National Laboratory;
- Investigate the feasibility of ensuring that other houses used by the top-echelon scientists and military leaders become part of the public domain.

Hanford, WA:
- Capture on video and complete editing of oral histories of Manhattan Project and veterans of the Hanford site.
- Develop exhibits on the Manhattan Project history for the B Reactor museum and the Hanford Reach National Monument Heritage and Visitors Center.

Oak Ridge, TN:
- Capture the oral histories of the men and women who were involved in the Manhattan Project and early Cold War and Atomic Age history, including women, Afro-Americans and other minorities.
- Develop exhibits to be used in the American Museum of Science and Energy, as well as in national exhibits on the Manhattan Project.

The Atomic Heritage Foundation has benefited from the generosity of the following corporations and individuals:

$1,000,000 and up
National Nuclear Security Administration

$250,000 and up
Department of Energy, Idaho

$50,000 and up
M. J. Murdoch Charitable Trust
Argonne National Laboratory
Crystal Trust

$25,000 and up
Bechtel National
DuPont Company
Los Alamos County
Los Alamos National Bank

$10,000 and up
Bechtel BWXT Idaho, LLC
Bechtel Foundation
The Washington Group, Inc.

$5,000 and up
British Nuclear Fuel Ltd.
Com. Edison (Exelon Nuclear)
Idaho National Engineering and Environmental Laboratory (INEEL)
Wackenhut

$1,000 and up
Catherine Allen, Bechtel Nevada, Hans Bethe, Andrew Brown, EXCEL Services, Florida Power & Lg. Brian Grimes, Leonard Koch, Project Performance, Paul and Deanne Shatz, University of California, and others.
The Foundation’s Major Projects

M. J. Murdoch and Save America’s Treasures Grants for Idaho Museum Exhibits (January 2004)

In January, the M. J. Murdoch Charitable Trust awarded the Foundation $150,000 to develop museum exhibits and educational materials on the early history of nuclear reactor development. With matching funds from a Save America’s Treasures grant, the Atomic Heritage Foundation is developing exhibits at the Experimental Breeder Reactor - I (EBR-I) Building and complementary exhibits at the Museum of Idaho in Idaho Falls, Idaho.

The exhibits will include first-hand accounts of the men and women who worked on the EBR-I, first reactor to produce usable quantities of electricity (Dec. 20, 1953), and the fifty-two experimental reactors that were built over the next twenty years. Exhibits will help visitors understand why the Atomic Energy Commission chose the site for its Nuclear Reactor Testing Station and how this work transformed the region from an agricultural community to an internationally significant center for science and technology. Interactive kiosks and displays will highlight milestones from the early history of atomic power and the nuclear Navy as well as address future challenges.

Film: The Race for Atomic Power (2004)

The Foundation has begun filming a sequel to Nuclear Pioneers, which was completed in April 2004. The Race For Atomic Power will explain the achievements of the first two decades of nuclear reactor experiments in Idaho. The advances achieved during the remarkable early years provided a blueprint for commercial reactors worldwide. Under the direction of the Atomic Energy Commission, multiple projects were run in parallel by the Argonne National Laboratory and the U.S. Navy with Westinghouse, General Electric, Bechtel, Philips Petroleum, and other pioneering companies. The film will put a human face on the story through interviews with some of the scientists, engineers, and other contributors. With explanatory graphics and documentary photographs, the film will help the public appreciate the challenges that were confronted in designing and testing the first nuclear reactors and how the work in Idaho profoundly influenced the development of nuclear energy worldwide.

Hanford’s Secret Wartime Mission (1942-1945)

To be premiered on October 8, 2004, this documentary film chronicles the story of the Manhattan Project at Hanford where the world’s first plutonium production facilities were built along the Columbia River in eastern Washington state. The undertaking paired the University of Chicago’s team of extraordinary physicists led by Enrico Fermi with the DuPont company’s industrial expertise. The film shows the determination, commitment, and scientific ingenuity that overcame the seemingly impossible task of producing plutonium for the “Fat Man” bomb, which was dropped on Nagasaki on August 9, 1945.
Manhattan Project National Historic Park Study Act

On Wednesday, April 28, 2004, the Senate Committee on Energy and Natural Resources voted unanimously to pass S. 1687, “The Manhattan Project National Historic Park Study Act of 2003,” a bill to authorize a Special Resource Study on the potential for including the Manhattan Project sites in the National Park System. Legislation authorizing the study is co-sponsored by Senators Bingaman (D-NM), Cantwell (D-WA), Domenici (R-NM) and Murray (D-WA) in the Senate (S. 1687) and Congressman Hastings (R-WA) and Tom Udall (D-NM) in the House (H.R. 3207). At hearings held by the Senate on March 11, 2004, Ms. Kelly testified, “The legislation is urgently needed to ensure that some of the original Manhattan Project properties are preserved as part of the National Park System. The Manhattan Project had a profound influence on American and world history and left an indelible legacy for the 21st century. From first-of-a-kind industrial facilities and equipment to ‘Alphabet’ houses, there should be some tangible evidence of this monumental undertaking that changed the course of world history for future generations.” As of August 12, 2004, the legislation was awaiting action by the Senate.

A Case for Historic Preservation: Oppenheimer’s House

In January 2003, the Atomic Heritage Foundation and Los Alamos Historical Society approached Helene Suydam and R. Bergen Suydam, the current owners of the Los Alamos house where J. Robert Oppenheimer and his family lived, about their willingness to consider a “living trust” agreement.

On Tuesday, October 28, 2003, in Los Alamos, NM, the Suydams signed a retained life estate agreement that provides title to the house to the Los Alamos Historical Society while they can continue to live there. Thanks to the generosity of the Suydams, future generations will be able to enjoy seeing the house as it was when J. Robert Oppenheimer and his family lived there from 1943 to 1945.

On June 25, 2004, Senator Pete Domenici and Governor Bill Richardson joined in dedicating the house and unveiling a plaque to be placed on it. This ceremony was part of the Atomic Heritage Foundation’s events to commemorate the Oppenheimer Centennial. As a companion to this property, the Los Alamos Historical Society hopes to acquire the Arts and Crafts Cottage that once was home to Enrico Fermi and Hans Bethe and their families. The Cottage could be restored as a bed-and-breakfast for visiting scholars and scientists as well as be opened to the public once it is restored with Manhattan Project era furnishings.
Introduction

The June 25 and 26, 2004 events to commemorate the centennial of J. Robert Oppenheimer and the Manhattan Project at Los Alamos, NM were a great success. At the Bradbury Science museum, over 800 visitors from 15 states came to hear Manhattan Project veterans’ stories of wartime Los Alamos and over 300 took guided bus tours. The turnout for these events underscored the fascination that people have with the top-secret Manhattan Project and the remarkable work of scientists and others at Los Alamos.

Tours and Presentations

Narrated by historians, veterans and children of the Manhattan Project, visitors rode over the mesas where the Manhattan Project workers produced the bomb. In addition, guides pointed out the houses where they lived, the canyons where they hiked, and the Fuller Lodger where they partied to escape the tensions of wartime Los Alamos.

At the Bradbury Science Museum, visitors were also given a “virtual tour” of the top-secret sites behind the security fence at the laboratory by the Los Alamos National Laboratory’s John Isaacson. Manhattan Project veterans McAllister Hull and John Mench contributed their stories and insights on the guided bus tours as well as in presentations running all day at the museum. Along with the virtual tours and presentations, the museum also showed the short documentary The Town that Never Was.

Dedication of the Oppenheimer House at Los Alamos

The home in which the Oppenheimer family lived during the Manhattan Project was recently acquired by the Los Alamos Historical Society. The house’s current owners, Bergen and Helene Suydam, graciously opened the home up so visitors could get an intimate sense for where J. Robert and Kitty Oppenheimer lived with their toddler and new baby during those twenty-seven months that changed history.

Following the open house, New Mexico Governor Bill Richardson and Senator Pete Domenici dedicated the Oppenheimer house with a plaque that will be permanently placed on the historic property. Grandson Charles Oppenheimer and Los Alamos National Laboratory Director Pete Nanos shared reflections on the historic significance of the home and Oppenheimer’s role. Nanos then presented to the Los Alamos Historical Society a check for $50,000 to help restore the house. These funds are part of a $700,000 Save America’s Treasures grant received by the Laboratory to restore and interpret Manhattan Project properties.

Symposium

On Saturday, hundreds of people from around the country attended a Symposium on “Oppenheimer and the Manhattan Project,” opened by Senator Jeff Bingaman of New Mexico. The program featured the “Who’s Who” of Manhattan Project historians and authors, former students, life-long friends and colleagues of Oppenheimer.

The keynote address was given by Pulitzer-prize winner Richard Rhodes, author of The Making of the Atomic Bomb. Other speakers included Gregg Herken, Brotherhood of the Bomb; Robert Norris, Racing for the Bomb; Ferenc Szasz, The Day the Sun Rose Twice; Kai Bird, co-author with Martin Sherwin of forthcoming book on Oppenheimer; New Mexico State University Public History Director Jon Hunner; novelist Joseph Kanon, Los Alamos; Manhattan Project veteran Maurice Shapiro; Oppenheimer student Ed Gerjuoy; relative Andy Oppenheimer and David Pines, a lifelong friend of Oppenheimer.

The preliminary proceedings of the Symposium and DVD recordings are available from the Atomic Heritage Foundation’s on-line store.

Collaborative Effort

Symposium revels in founding saga

Richard Rhodes, Keynote Speaker

Oppenheimer house dedicated

Gov. Richardson and Sen. Domenici unveiling plaque

Presentation of check to Los Alamos Historical Society

Symposium Presenters

John Mench

McAllister Hall
On June 25, and 26, 2004, the Atomic Administration Deputy Everet Beckner, Heritage Foundation organized events at NM Cultural Affairs Director Dan Ash- Los Alamos with the Los Alamos Histori- cal Society, Los Alamos National Labora- tory and other partners to commemorate the Oppenheimer centennial. Highlights were the dedication of his house by Sena- dor Pete Domenici and Governor Bill Symposium are available through the Richardson and a day-long symposium Atomic Heritage Foundation’s website at with keynote speeches by Senator Jeff www.atomicheritage.org or by calling Bingaman, National Nuclear Security 202-293-0045.