

# MANHATTAN PROJECT SITES

NATIONAL PARK SERVICE  
U.S. DEPARTMENT OF THE INTERIOR



HANFORD, WASHINGTON • LOS ALAMOS, NEW MEXICO • DAYTON, OHIO • OAK RIDGE, TENNESSEE

## SPECIAL RESOURCE STUDY/ENVIRONMENTAL ASSESSMENT

FONSI • SEPTEMBER 2010

**FINDING OF NO SIGNIFICANT IMPACT**

**MANHATTAN PROJECT SITES**

**LOS ALAMOS, NEW MEXICO / HANFORD,  
WASHINGTON / OAK RIDGE, TENNESSEE / DAYTON,  
OHIO**

**SPECIAL RESOURCE STUDY / ENVIRONMENTAL  
ASSESSMENT**



## FINDINGS

This special resource study does not constitute an action that normally requires preparation of an environmental impact statement. The findings of the study will not have a significant effect on the human environment, and no major environmental impacts are foreseen. There are no significant adverse impacts on public health, public safety, threatened or endangered species, historic properties either listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

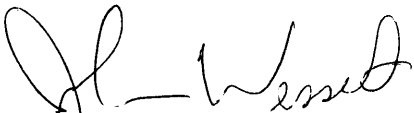
Based on the foregoing, it has been determined that an environmental impact statement is not required for this project and thus will not be prepared.

Recommended:

  
\_\_\_\_\_  
Regional Director  
Pacific West Region


04.13.2010  
Date

Recommended:

  
\_\_\_\_\_  
Regional Director  
Intermountain Region

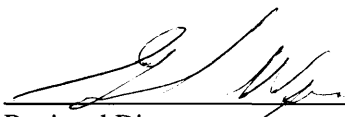
9/11/10  
Date

Recommended:

  
\_\_\_\_\_  
Regional Director  
Midwest Region

9-16-2010  
Date

Recommended:

  
\_\_\_\_\_  
Regional Director  
Southeast Region

9/28/10  
Date

Approved:

  
\_\_\_\_\_  
Director  
National Park Service

10/18/2010  
Date



**FINDING OF NO SIGNIFICANT IMPACT**  
**MANHATTAN PROJECT SITES**  
**LOS ALAMOS, NEW MEXICO / HANFORD, WASHINGTON / OAK RIDGE,**  
**TENNESSEE / DAYTON, OHIO**  
**SPECIAL RESOURCE STUDY / ENVIRONMENTAL ASSESSMENT**

**INTRODUCTION**

The purpose of this study is to comply with the Manhattan Project National Historical Park Study Act (Public Law 108-340), passed in 2004, which directed the Secretary of the Interior to "conduct a study on the preservation and interpretation of historic sites of the Manhattan Project for potential inclusion in the National Park System."

The Manhattan Project was a highly significant chapter in America's history that expanded scientific research, developed new technologies, and changed the role of the United States in the world community. This focused effort, combining military and scientific resources and involving hundreds of thousands of workers at multiple sites, was kept secret and out of public view for the duration of the project.

**THE STUDY AREA**

The NPS study team, consisting of staff from the National Park Service's Pacific West, Midwest, Intermountain, and Southeast regional offices; Denver Service Center; Bandelier National Monument; Dayton Aviation Heritage National Historical Park; and the Department of Energy, was directed by Congress to study the specific sites of the (1) Los Alamos National Laboratory and townsite in New Mexico; (2) Hanford site in Washington; and (3) Oak Ridge Reservation in Tennessee. A fourth site at Dayton, Ohio—where polonium, used as a trigger, was refined and produced—was added to the study by Congressional colloquy. While the four sites—Los Alamos, Hanford, Oak Ridge, and Dayton—are part of a larger story, Congress specifically directed the National Park Service to examine these four as potential units of the national park system using NPS criteria for inclusion.

**EVALUATION OF SIGNIFICANCE**

As important contributors to the Manhattan Project, the four study sites, taken together, meet all four of the national park system criteria for national significance. In addition, a number of historic resources located at these sites also meet three of the six national historic landmark criteria.

**EVALUATION OF SUITABILITY**

Cultural resources associated with the Manhattan Project are not currently represented in the national park system, and comparably managed areas are not protected for public enjoyment. The comprehensive story of the Manhattan Project is not interpreted by other federal agencies; tribal, state, or local governments; or the private sector. Various sites have some protection (such as those managed by the Department of Energy), and some sites and museums tell parts of the story, but the comprehensive story of the nationally significant Manhattan Project is not told anywhere. Including Manhattan Project-related sites in the national park system will expand and enhance the protection and preservation of such resources and provide for comprehensive interpretation and public understanding of this nationally significant story in 20th century American history.

## **EVALUATION OF FEASIBILITY**

It was initially determined that size, boundary configurations, distance between sites, safety concerns, and landownership patterns would make the establishment of an NPS unit incorporating all four sites infeasible. However, many of the issues that first led the National Park Service to make a determination of infeasibility were addressed in a letter from the Department of Energy dated May 13, 2010. In that letter, Dr. Ines R. Triay, Assistant Secretary for Environmental Management at the Department of Energy, clearly stated the Department of Energy's endorsement of a strong and permanent partnership between the National Park Service and the Department of Energy in which roles and responsibilities would be clearly delineated. The Department of Energy reaffirmed its commitment to ultimate responsibility, in perpetuity, for clean up and disposition of all radiological resources at all "three original DOE properties" and that these properties should be included in any future designated Manhattan Project National Historical Park. The Department of Energy also reaffirmed its commitment to site preservation and to allowing visitor access at several historic facilities, including the Hanford B Reactor National Historic Landmark at Hanford, Washington, and the X-10 Reactor National Historic Landmark and the historic Y-12 Beta Racetracks at Oak Ridge, Tennessee. The Department of Energy's May 13, 2010 letter further stated that the Department of Energy "concurs with the NPS study assumption that any facilities included in an NPS unit will remain in DOE ownership and that the Department of Energy will maintain them, preserve important historic resources at these sites, ensure visitor and employee safety, and request necessary funding from Congress to do so in the future." These expressed commitments from the Department of Energy addressed key constraints related to the feasibility of establishing a Manhattan Project National Historical Park at the three DOE facilities and their related communities in Oak Ridge, Los Alamos, and Hanford. This led to a revision of the assessment of feasibility, and to the finding that NPS management of a potential new unit is feasible.

Accordingly, revisions have been made to alternative E. The revised alternative is contained in this document in its entirety. The revised alternative does not include Dayton as one of the sites that included in the national historical park. Although the Dayton sites are potentially suitable and may possess national significance, the individual sites do

not meet the same level of integrity as those in the other three locations. Nor do they meet the feasibility factors considered necessary for effective and efficient management to the extent the other sites do. In particular, there are no entities, forthcoming at this time, who are committed to preserving the historic Manhattan Project facilities in Dayton. Should interest in Dayton develop in the future, once the sites are preserved, these sites may be considered as an affiliated site along with other Manhattan Project associated resources at other locations throughout the nation.

## **ALTERNATIVES CONSIDERED**

### **No-action Alternative**

Under the no action alternative, the four Manhattan Project sites would continue to operate as they have in the past without any national coordination regarding resource protection and interpretation of the Manhattan Project story—although the sites could communicate among themselves on an ad hoc basis. The management and sponsored activities occurring at each site would continue as they have, with local entities and personnel working separately or in concert with the Department of Energy to interpret and preserve each local Manhattan Project site. Each of the sites would continue to operate local programs in a manner they feel best suited to the local or national Manhattan Project story.

### **Alternative B: Nationwide Nonprofit Consortium**

In this alternative, local organizations interested in heritage tourism, preservation, and interpretation of the Manhattan Project story would form a nationwide nonprofit consortium to work with the Department of Energy and other site owners to coordinate Manhattan Project-related preservation and interpretive efforts at the four sites. The work of a consortium would initially focus on Los Alamos, Oak Ridge, Hanford, and Dayton, but could expand to include other sites across the nation as well as around the world. The existing Atomic Heritage Foundation, the Energy Communities Alliance, or a newly formed entity would serve as the catalyst for this alternative and also could serve as the management entity for the nationwide consortium. The consortium would be a self-supporting, nonprofit entity, sustained through membership fees or other fundraising efforts. The viability of the consortium would be dependent on these funds as well as on the participation of local organizations. After it is formed, the consortium also could help raise funds for the local organizations.

Although the consortium members would provide a coordinated presentation of the work of the Manhattan Project, they would remain primarily accountable to their local communities for the preservation and interpretation of their associated sites.

### **Alternative C: National Heritage Area**

In this alternative, the four Manhattan Project sites would be proposed for designation as a national heritage area. The Manhattan Project National Heritage Area would be unlike any other national heritage area in



that it would be located in noncontiguous areas and would be specifically thematic in a way that other areas are not.

Once the national heritage area was designated, a nonprofit management entity would be established to create a management plan and receive federal funds on the area's behalf. Thus, the national heritage area would provide comprehensive, consistent direction for management, preservation, and interpretation of the Manhattan Project sites. The management entity could be a state or local agency, a federal commission, or a private nonprofit corporation. Two potential organizations that could become the management entity are the Atomic Heritage Foundation and the Energy Communities Alliance, both of which already provide a national link for Manhattan Project sites.

The Department of Energy and local stakeholders and property owners would be partners with the management entity. The managing entity and partners would have responsibility for the administration, viability, and direction of the national heritage area, and for prioritizing and coordinating fundraising for preservation efforts at all sites.

Depending on the legislation authorizing the national heritage area, numerous domestic sites related to the Manhattan Project could participate in the national heritage area, as could international members and sites that might have an important story to tell about atomic research during World War II. The national heritage area designation could result in initial federal funding of preservation and interpretation efforts at the four sites. However, eventually the heritage area would need to be self-sustaining, raising funds through grants, tour fees, membership fees, etc. In this regard, the management entity could develop a business plan to ensure the heritage area is sustainable.

#### **Alternative D: Area Affiliated with the National Park System**

In this alternative, Congress would designate key Manhattan Project historic resources in Oak Ridge, Los Alamos, Hanford, and Dayton as a Manhattan Project National Historic Site that would be an affiliated area of the national park system. National Park Service management policies require that affiliated areas meet specific criteria.

Historic sites within the affiliated area would include both publicly and privately owned sites. Public sites would include those owned and managed by the Department of Energy that are part of their inventory of Signature Facilities at the Manhattan Project sites. Also included in the affiliated area would be sites directly related to the Manhattan Project that are located in community settings and are owned and managed by local governments, nonprofit organizations, and private owners. Only those privately owned sites that have the permission of the owner would be included in the affiliated area.

The affiliated area could be managed by a commission, associated with the Department of Energy and established by Congress, that would coordinate preservation and public use of Manhattan Project sites identified in the legislation. The Department of Energy and the National Park Service would serve as nonvoting members of the commission and would bring agency

expertise in site management and visitor interpretation and education to the commission deliberations. The commission would be authorized by legislation to seek operations funding support from Congress and other private and various nonfederal public sources.

In this alternative, the Department of Energy would manage its facilities in line with NPS policies, but would have financial responsibility for all ongoing operations, maintenance, and preservation of its facilities through its appropriations. The National Park Service's sole responsibility under this alternative would be to provide technical assistance as requested by the commission or the Department of Energy.

### **Alternative E: Manhattan Project National Historical Park (at Los Alamos)**

In this alternative, Congress would designate a site in the Los Alamos, New Mexico area as the Manhattan Project National Historical Park managed by the National Park Service. Certain site resources within the existing Los Alamos Scientific Laboratory National Landmark District would be incorporated into the national historical park. Enabling legislation would allow for some limited public ownership of these sites, coupled with leasing opportunities elsewhere in the community. The enabling legislation would also allow for partnering with the Department of Energy to advance public educational, interpretive experiences, and understanding at those DOE-managed sites in the Los Alamos area that are determined appropriate and safe for public access.

Other Manhattan Project sites—resources and historic districts located in Hanford, Washington; Oak Ridge, Tennessee; and Dayton, Ohio—also contain important Manhattan Project historic resources. While the preservation of certain resources at these sites is fully recommended, these sites would be considered associated with, but not operationally part of, the Los Alamos-based National Historical Park.

## **Revised Alternative E: Manhattan Project National Historical Park (with units at Los Alamos, Oak Ridge, and Hanford)**

In response to overwhelming public input, as well as the Department of Energy's commitment to be responsible for safety and security, alternative E was revised to include Oak Ridge, Tennessee, and Hanford, Washington as locations in the national historical park along with Los Alamos, New Mexico.

Revised alternative E is based on the same impact analyses as provided in alternative E in the environmental assessment, as well as analyses found in alternatives C and D where all three sites are considered. Impacts described for Los Alamos, New Mexico in alternative E are similar to those impacts that will be experienced at Oak Ridge, Tennessee, and Hanford, Washington in revised alternative E.

Following is the full text of the revised alternative E.

A new innovative Manhattan Project National Historical Park, will be authorized by Congress under this alternative. The park will include both publicly and privately owned facilities in Oak Ridge, Tennessee; Los Alamos, New Mexico; and the Hanford, Washington area. The boundaries of the national historical park will be defined by enabling legislation and refined by the general management planning process.

The National Park Service will have the overall responsibility for interpretation and education at the three sites and will provide technical assistance to resource preservation efforts. NPS staff will be assigned to each of the sites. The Park Service will not be expected to acquire property for park operations at either the Oak Ridge or Hanford units; possible acquisition of property at Los Alamos will be explored through the development of the general management plan for the park.

The Department of Energy will continue to have total responsibility for operations, maintenance, and historic preservation of historic Manhattan Project properties now under their jurisdiction and will maintain total liability for any environmental hazards related to those properties.

In addition to DOE-managed properties, the park will include certain privately or locally managed historic and educational resources in the communities of Oak Ridge, Los Alamos, and the Hanford area.

Other sites associated with the Manhattan Project such as the Metallurgical Laboratory at the University of Chicago; the Livermore Berkeley Laboratory at the University of California; Dayton, Ohio research facilities; Tinian Island; and the Trinity Test Site at White Sands, New Mexico that were important contributing locations in the development of the Manhattan Project could be considered as associated sites of the national historical park. Whether or not these sites achieve some sort of formal status or affiliation with the park will depend on an assessment of resource integrity and the support and willingness of the site managers or owners.

The park also could have interpretive and educational links to other Manhattan Project sites throughout the United States that are owned and managed by other entities.

Funding in support of park operations will come from both the Department of Energy and the National Park Service.

Appropriations from Congress through the Department of Energy will provide long-term commitment and support for the following:

- management and operations of listed historic sites
- maintenance of listed historic sites
- site security of listed sites
- certification and conditions of public access of listed sites
- historic preservation of listed sites

Separate appropriations through the Department of the Interior and the National Park Service will support the following:

- interpretive and educational media and programs, including the planning and development of interpretive media and programs for the three park units
- community outreach and assistance in training of volunteers in association with local museums and organizations
- technical assistance to the three communities for historic preservation
- other costs associated with the operation and management of the park

In full collaboration with the Department of Energy, community groups, and stakeholders, the National Park Service will be responsible for preparing a general management plan and environmental impact statement for the national historical park, which will provide the blueprint for the long-term preservation and public use of park resources. As part of the development of this plan, a process will be outlined for evaluation and potential association of other Manhattan Project sites.

The National Historical Park will comprise the following historic districts and historic sites at each of the three locations included in the park.

### ***Los Alamos***

The National Park Service will have a presence at the Los Alamos location and will provide technical assistance to facilitate the preservation of the Los Alamos Scientific Laboratory National Historic Landmark District as listed in the National Register of Historic Places, including the following:

- Fuller Lodge
- Baker House
- Ranch School Guest House, Stone Powerhouse
- Oppenheimer House and four other private residences on Bathtub Row

- Memorial Shelter at Ashley Pond

The Department of Energy, will continue to own and manage sites within a potential new "Project Y" Manhattan Project National Historic Landmark District, including the following Manhattan Project properties eligible for listing in the National Register of Historic Places:

- "Trinity Test" V Site (TA-16)
- "Little Boy" Gun Site (TA-8)
- "Fat Man" Quonset Hut (TA-22)
- "Plutonium Recovery" Concrete Bowl (TA-6)
- "Criticality Accident" Slotin Building (TA-18)
- "Fission Research" Pond Cabin (TA-18-29)

### ***Oak Ridge***

The National Park Service will have a presence at the Oak Ridge location and will offer technical assistance for historic preservation within the Oak Ridge Historic District, including the original town site.

The Department of Energy will continue to own, manage, and preserve the Oak Ridge National Laboratory Historic District—including the X-10 Graphite Reactor National Historic Landmark—and the Y-12 Plant Historic District—including the Y-12 Beta-3 Racetracks. The Department of Energy, in consultation with Oak Ridge community groups, and other local and national historical interests, will determine the appropriate commemoration of the K-25 Gaseous Diffusion Process Building.

### ***Hanford***

The National Park Service will have a presence at the Hanford location and will provide technical assistance for historic preservation to identified community-based historic resources in the Hanford/TriCities area.

The Department of Energy will continue to own, manage, and preserve the Hanford Site Manhattan Project and Cold War Era Historic District, including the B Reactor (105-B Building) National Historic Landmark.

### ***Resource Protection and Preservation***

Appropriations will be requested by the Department of Energy to support the long-term preservation and public access to the previously identified historic Manhattan Project facilities owned by the Department of Energy.

In addition, various funding sources will be explored to support the preservation of community-based Manhattan Project National Historic Landmark properties, National Historic Landmark Districts, and sites and districts listed in the National Register of Historic Places in Oak Ridge, Los Alamos, and the Hanford/Tri-Cities area (cities of Richland, Kennewick, and Pasco).

The National Park Service will provide technical assistance to community groups and organizations related to these potential partnership projects.

In Dayton, Ohio, Dayton Aviation National Historical Park, in cooperation with the Ohio State Historic Preservation Office and the NPS Midwest Region Cultural Resources office, could provide some additional assistance to the Dayton community to encourage historic preservation efforts related to Dayton Project Unit III and the McIntire Building, both of which are listed in the National Register of Historic Places. These preservation efforts, if successful, could result in the Dayton Manhattan Project sites having some form of formal affiliation or association with the national historical park, subject to the consent of the owner.

### ***Public Access***

DOE-managed historic signature facilities will be open to the public on a case-by-case, site-by-site basis, as both public safety and site security issues are addressed. In some instances, tours of DOE sites might be provided on a special schedule. In other instances, full, regular public access to these sites could be available.

Public access to historic Manhattan Project DOE-managed sites, whether limited or sustained, will be the responsibility of the Department of Energy. Tours of these historic facilities will be conducted by local community groups and organizations under formal agreement with the Department of Energy. The National Park Service could provide training to volunteer groups and others conducting these tours.

Public access to sites not owned by the Department of Energy will be coordinated by the National Park Service and the owners of the individual sites.

### ***Interpretation***

Through an interagency agreement between the Department of Energy and the National Park Service, the Park Service will oversee the management and development of Manhattan Project interpretive and educational media and programs at the three sites. In most cases, the National Park Service will work with local nonprofit museum associations and other organizations at each of the community locations to obtain assistance in providing site tours and developing other programming, and to identify appropriate locations in which to install interpretive exhibits or other media for those sites not owned and managed by the Department of Energy. Where DOE-managed facilities are involved, the actual design and location of exhibits will be coordinated with the Department of Energy.

Wherever possible, existing institutions, such as the Museum of Science and Energy at Oak Ridge, the Los Alamos Historical Society, and the Hanford Reach Interpretive Center, will be used to host films, exhibits, and public programming related to the interpretation of the Manhattan Project National Historical Park.

At each of the key Manhattan Project Sites, including DOE-managed historic facilities determined to be appropriate for public visitation and access, interpretation could include onsite wayside exhibits and exhibits within the buildings themselves. A park brochure will also be developed that will link all the sites. Interpretive and educational media could also be developed as part of a park website, which could also provide links to

other historic Manhattan Project sites located in other states or U.S. territories that have a formal relationship or affiliation with the park.

At the Oak Ridge and Los Alamos museums and the Hanford Reach Interpretive Center, cooperating association book sales of publications and other material related to the Manhattan Project could be featured.

### ***The Role of the National Park Service***

The National Park Service will have the lead responsibility for the interpretation and public education role in the Manhattan Project National Historical Park. A primary responsibility will be to ensure continuity, accuracy, and professionalism in the development of any media and educational programs related to the park.

The Park Service could provide training to a cadre of guides and volunteers from each of the communities who will assist in providing tours of historic Manhattan Project facilities. Where these facilities include historic sites on DOE-managed lands, these tours will be subject to DOE approvals, security, and certification of public safety, in cooperation with community organizations and volunteer groups.

There will be an NPS interpretive staff assigned to the designated Manhattan Project sites within each of the three communities to develop and carry out interpretive and educational programming. This staff will be augmented by local nonprofit associations, community workers, and volunteers.

The NPS presence will likely be greatest at Los Alamos, since it is where a shared DOE/NPS headquarters for the national historical park will be located. Opportunities to colocate administrative facilities and other operations in conjunction with nearby Bandelier National Monument will be fully explored.

In the Hanford area, NPS interpretive staff could potentially assist in interpretation and educational programming at the Reach Interpretive Center in Richland and in educational programming throughout the Hanford area. NPS staff could also help train guides for onsite tours of the B Reactor.

At Oak Ridge, NPS staff could potentially assist in interpretation and educational programming at the Museum of Science and Technology, which is the logical starting point for tours of the community and DOE-managed Manhattan Project facilities.

In addition, the National Park Service could provide technical assistance to the local communities in the preservation and adaptive reuse of community structures associated with the period of significance.

The National Park Service, through the Department of the Interior appropriations process, will provide funding for NPS staffing at the three units of the park. In addition, the Park Service will be responsible for the development of interpretive films, exhibits, waysides, kiosks, brochures, webpage development and other media related to telling the story of the Manhattan Project to the public, and for the administrative and other needs of the park.

The National Park Service will not be expected to acquire property for park operations at either the Oak Ridge or Hanford units. At Los Alamos, various options, including NPS acquisition of certain properties, will be explored within the Los Alamos Scientific Laboratory National Historic Landmark District or elsewhere in Los Alamos, as part of the park general management planning process. Administratively, the National Park Service will establish a headquarters and park operations support site in Los Alamos, which could be colocated with Bandelier National Monument or involve a cooperative agreement or lease with a local nonprofit partner, such as a museum association.

Given the extent of facilities already in existence or planned at each of the three communities, the development of new major visitor facilities for the national historical park is anticipated to be substantially less than what would be traditionally expected for a new park unit. Additionally, the National Park Service could assist community partners with enhancements to interpretive and educational media and programming at these locations.

### ***The Role of the Department Of Energy***

As co-manager of the park, the Department of Energy will continue to own the facilities now under their jurisdiction, and continue to be responsible for the long-term management, maintenance, security, liability, and site preservation of historic Manhattan Project nuclear facilities now under their jurisdiction.

The Department of Energy will assign management and support personnel to oversee site maintenance, public access and safety, and site preservation activities. Staff will be expected to coordinate with community partners on public tours of accessible sites and to manage agreements between the Department of Energy and community organizations related to the conduct of tours.

Under this alternative, the Department of Energy could assign at least one staff liaison to Los Alamos to help foster collaborative management and coordination with the National Park Service related to the larger park, and to help ensure that issues related to public safety and access, site security, and other aspects of park operations are addressed. The Department of Energy could also assign a staff liaison or primary point of contact at the Oak Ridge and Hanford locations as well, to help ensure good communications and a collaborative working relationship. Activities will include, but not be limited to, addressing public access to DOE sites and the preserving historical Manhattan Project structures and sites for which the Department of Energy is responsible under the National Historic Preservation Act of 1966.

The Department of Energy may request additional congressional funding to provide for the preservation, site maintenance, operation, safety, and site security of Manhattan Project historic properties located on federally owned land managed by the Department of Energy. These properties will include all the DOE-owned facilities and sites located at Oak Ridge, Los Alamos, and Hanford that were previously listed for inclusion in the national historical park.



### ***The Role of Other Entities***

Various nonprofit entities in all the communities, including museum boards and associations, community organizations, retiree groups, and others will all have important roles to play in the operations and success of the national historical park. Both formal and informal agreement will help shape these important relationships between the two federal agencies and other partners.

Local park partners, including community-based museum staff and volunteers will provide support for the park and public education and outreach programs. This cadre of local expertise, including retirees that worked at these sites and other citizens of the communities surrounding these facilities, will provide an invaluable resource for site interpretation and educational programming.

### ***Cost Estimates***

Costs for operating the three units of the national historical park will be developed through the general management planning process. The estimated annual operating costs for the original alternative E (a park at Los Alamos) ranged between \$1.45 million and \$3 million. Adding the two additional sites will cost about \$500,000 per site for site employees and office space; thus the annual operating costs for revised alternative E will be expected to range between \$2.45 million and \$4 million.

Completing the general management plan called for in this alternative will cost approximately \$750,000.

### **Environmental Consequences of Revised Alternative E: Manhattan Project National Historical Park (with units at Los Alamos, Oak Ridge, and Hanford)**

Under revised alternative E, the environmental consequences at Oak Ridge and Hanford will be the same as or similar to those at Los Alamos, which was the only site fully analyzed in alternative E. Impacts to Oak Ridge and Hanford were analyzed fully under alternative C (for a national heritage area including all three locations) and alternative D (an NPS affiliated area including all three locations).

With the revised alternative, enhanced preservation and technical assistance provided by the National Park Service in conjunction with the Department of Energy's existing cultural preservation efforts will result in long-term beneficial impacts at all the locations included in the national historical park. Adverse impacts to cultural resources will be minor and long term.

For purposes of compliance with Section 106 of the National Historic Preservation Act., after applying the Advisory Council on Historic Preservation's criteria of adverse effects (36 CFR 800.5, *Assessment of Adverse Effects*) at all three locations, the National Park Service concludes that impacts from implementation of the revised alternative will result in no adverse effect on historic buildings and structures and cultural landscapes. Museum collections will also benefit similarly at all three sites over the long term. Impacts to visitor use and experience resulting from the advent of comprehensive and coordinated interpretation

will be beneficial, minor to moderate, and long term. These impacts to visitor use and experience were also analyzed similarly at all three sites in alternatives C and D. Socioeconomic impacts, also analyzed in alternatives C and D will be similar under revised alternative E at all three locations and will be negligibly beneficial for the long term.

The predominately beneficial impacts of the revised alternative, in combination with the moderate, long-term or permanent, adverse impacts of other past, present, and reasonably foreseeable future actions, will result in a long-term, moderate, cumulative effect. However, the adverse and beneficial effects of the revised alternative will be a very small component of any cumulative impact.

The full environmental impact analysis of revised alternative E is attached to this document as an appendix.

## **ALTERNATIVES CONSIDERED BUT DISMISSED**

The following alternatives were considered but dismissed in the environmental assessment. They are presented here as background to the process that brought the study team to revise alternative E.

### **Designation as a National Historical Park Encompassing Los Alamos, Oak Ridge, Hanford, and Dayton**

Under this management alternative, Congress would establish a Manhattan Project National Historical Park, which would include resources and sites that are historically associated with the Manhattan Project at Los Alamos, Oak Ridge, Hanford, and Dayton. Other related sites that are important to the story, have resource integrity, and are owned and managed by other private and public entities also could be incorporated into the national historical park through formal agreements. In this concept, the national historical park would encompass four noncontiguous areas, and would not be identified with just one location; however, it is likely that one site would serve as the primary orientation site.

This alternative was dismissed over a lack of certainty regarding safety, security, and funding for clean up and maintenance of Manhattan Project resources. There was also the question of public safety and access to sites that might include aging and deteriorating Manhattan Project resources of a hazardous nature.

### **Designation as a National Monument under Department of Energy Administration**

Under this management alternative, a Manhattan Project National Monument would be established via presidential executive order or congressional legislation and placed under Department of Energy administration. The monument would include resources and sites in federal ownership that are historically associated with the Manhattan Project, such as resources at Los Alamos, Oak Ridge, and Hanford. Other related sites that are important to telling the Manhattan Project story, have resource integrity, and are owned and managed by other private and public entities, such as those at Dayton, could choose to be associated with the national monument, but would not be managed or operated by the Department of Energy.

This alternative was dismissed as inappropriate to put forward for two primary reasons: it proposed another federal department be made responsible for managing a national monument without its concurrence and it proposed that the Department of Energy assume sole management responsibilities for a park unit, which is not part of the mission of the Department of Energy.

## **THE SELECTED ALTERNATIVE**

Alternative E was revised to include Oak Ridge, Tennessee, and Hanford, Washington, as locations to be included in the national historical park along with Los Alamos, New Mexico. The revision was carried out in response to overwhelming public input and substantive comment, as well as the Department of Energy's commitment to maintain complete responsibility for safety and security.

### **Identification**

Based on the written commitment from the Department of Energy for continued responsibility for the long-term management, maintenance, security, liability, and site preservation of historic Manhattan Project nuclear facilities, and based on the outpouring of public support for a park unit that includes sites at Oak Ridge, Tennessee; Los Alamos, New Mexico; and Hanford, Washington, the National Park Service has selected "Revised Alternative E: Manhattan Project National Historical Park (with locations at Los Alamos, Oak Ridge, and Hanford)" as the "most effective and efficient" alternative. Dayton, Ohio, was not included in the revised alternative because, at this time, there are no entities forthcoming within the Dayton community who have committed to preserve the historic Manhattan Project sites. Also, the Dayton sites do not approach the level of integrity and feasibility of management that is present at the other study sites being considered for inclusion in the national historical park.

### **Justification**

The concerns regarding liability, maintenance, and public access that contributed to the original finding of "infeasibility" have been addressed through the written commitment of the Department of Energy, who have articulated that the primary role of the National Park Service in the national historical park will be to focus on public interpretation and education programs and media development.

A national park encompassing locations in three different states continues to present management challenges and additional expenses. Such a park will be slightly less complex and less expensive than the four-site option that was originally deemed "infeasible." Commenters noted that it was the multiple-site aspect of the project and the dispersal of work that made the Manhattan Project effort successful. The incorporation of multiple sites within a Manhattan Project National Historical Park makes it possible for the unit to reflect the full story of the Manhattan Project. Public input has strongly suggested that the National Park Service should

be able to overcome the management challenges posed by a park located in three different states.

## **ENVIRONMENTALLY PREFERRED ALTERNATIVE**

The environmentally preferred alternative is defined by the Council on Environmental Quality as the alternative that best meets the following criteria or objectives, as set out in the National Environmental Policy Act (sec. 101):

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
2. Ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings.
3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
4. Preserve important historic, cultural, and natural aspects of our national heritage and maintain, whenever possible, an environment that supports diversity and variety of individual choice.
5. Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Based on these criteria, the environmentally preferred alternative is revised alternative E. This alternative best satisfies the national environmental goals—with the establishment of an NPS unit, this alternative provides the highest level of long-term protection of cultural resources while concurrently providing for a wide range of neutral and beneficial uses of the environment. This alternative will maintain an environment that supports a diversity and variety of individual choices, and it integrates resource protection with an appropriate range of visitor services and understanding.

With regard to the specific criteria, this special resource study evaluates management options rather than detailed development proposals; therefore, criterion 6 will be more appropriately evaluated when subsequent implementation planning occurs.

There would be no difference in how any of the alternatives would fulfill criterion 5 (achieving a balance between population and resource use).

The alternatives are not expected to substantially differ in their potential for degradation of the environment, risks to public health or safety, or undesirable or unintended consequences (criterion 3).

However, under alternative A, there would be a higher potential for the Department of Energy and the other owners to remove, sell, or ignore Manhattan Project resources, particularly at Dayton, than under alternatives B, C, D, and revised E. Thus, alternatives B, C, D, and

revised E would better fulfill criterion 1 (fulfill responsibilities of future generations as trustee of the environment).

Alternative A also would not protect resources or provide for public enjoyment at Dayton. Compared to alternative A, alternatives B, C, D, and revised E have the potential to increase awareness and interest, and thus increase opportunities for resource protection and for public enjoyment at Dayton and the other Manhattan Project sites. Consequently, alternatives B, C, D, and revised E would better achieve criteria 2, 3, and 4 than would alternative A.

In examining alternatives B, C, D, and revised E, there would be no noteworthy differences in how criteria 2 and 3 would be achieved. Any differences between the alternatives would largely depend on the nature and character of the consortium in alternative B, the national heritage area managing entity and its partners in alternative C, the commission and how it decides to manage the affiliated area in alternative D, and the formal relationships of the national historical park with other affiliated areas in revised E. How each of the organizations in alternatives B, C, and D would implement the management concepts is another unknown variable. It is not possible to speculate about how differences in expertise and fund raising abilities among the three different management entities could be brought to bear on the Manhattan Project sites.

Compared to alternatives B, C, and D, the establishment of a national historical park in revised E will provide the highest level of assurance that succeeding generations will continue to appreciate and enjoy this area. A consortium, national heritage area, or affiliated area would not necessarily be able to provide the same level of long-term assurance. Thus, revised alternative E will best achieve criterion 1.

With respect to criterion 4, alternatives B, C, D, and revised E would all generally ensure that important historic aspects of the sites will be preserved. But unlike the other alternatives, revised alternative E will establish a unit in the national park system that includes the three primary Manhattan Project sites. Compared to a consortium managing the sites, an entity managing a national heritage area, or an area affiliated with the national park system, an NPS unit will more likely have the support for DOE funding and the necessary staff to best ensure the long-term protection of DOE-managed cultural resources at Los Alamos, Oak Ridge, and Hanford. It is also more likely that an NPS unit will have the funding to help ensure that the full story of the Manhattan Project continues to be told. The national historical park provides more protection for the Manhattan Project resources than a national historical landmark designation by itself. An NPS unit that includes the three primary sites also will likely be able to provide more incentive than the other alternatives for other related Manhattan Project site owners to enter into agreements with the National Park Service and thus provide more assurance that these resources will be protected.

## **WHY THE SELECTED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE QUALITY OF THE HUMAN ENVIRONMENT**

As defined in 40 CFR §1508.27, significance is determined by examining the following ten criteria:

**Impacts that may be both beneficial and adverse. A significant effect may exist even if the federal agency believes that on balance the effect will be beneficial.**

Minor beneficial impacts of the preferred alternative include increased preservation efforts related to Manhattan Project resources, as well as better coordination of museum collections, more comprehensive interpretation and education, and negligible socioeconomic benefits as visitation is expected to remain controlled by the DOE. Programs of preservation and education currently exist at the Manhattan Project sites administered by the Department Of Energy; however, they are not currently coordinated. This will be the role of the National Park Service with the potential creation of a national park unit.

Impacts of other alternatives varied and are described in the environmental assessment.

### ***Archeological Resources***

The actions proposed are broad management alternatives that will not specifically impact prehistoric or historic archeological resources. The Department of Energy, which will remain the managing agency at the three sites (Los Alamos, Hanford, and Oak Ridge), will continue to administer the sites in accordance with current laws and regulations governing the activities of federal agencies. Any lands managed or acquired by the federal government will be subject to federal law and regulation. Any future actions by the Department of Energy or the National Park Service related to national register-eligible or national register-listed properties will involve compliance with 36 CFR 800 and the Advisory Council's regulations for compliance with Section 106 of the National Historic Preservation Act.

### ***Ethnographic Resources***

Ethnographic research has been conducted to varying degrees at the three DOE sites included in this study. The sites at Los Alamos, Hanford, and Oak Ridge do have ethnographic data relevant to the Manhattan Project period (1942 to January 1, 1947). The Department of Energy has made use of ethnographic and oral history interviewing as a means of compliance with federal historic preservation requirements. The selected alternative contains broad management actions that will not impact current efforts to conduct ethnographic work that has been used to assist in the protection of cultural resources at the sites under DOE management. Any future actions by the Department of Energy or the National Park Service related to national register-eligible or national register-listed properties will involve compliance with 36 CFR 800 and the Advisory Council's regulations for compliance with Section 106 of the National Historic Preservation Act.

### ***Socioeconomic Environment***

Designation of the Manhattan Project sites as proposed in the selected alternative may have an overall beneficial impact on the surrounding communities: tourism levels could be affected, which in turn could affect local employment, traffic, local businesses, and government receipts.

### ***Visitor Use and Experience***

Providing for visitor interpretation and quality visitor experiences are among the fundamental purposes of the National Park Service. Generally, visitor use and experiences are not part of the mission of the Department of Energy. However, under the selected alternative, the public will gain access to some Manhattan Project-era facilities. It is possible that the alternative could affect visitation levels and visitor experiences.

### ***NPS Operations and Facilities***

Under the revised alternative, the National Park Service is expected to purchase little or no property; however, facilities will likely be leased for office space, or an agreement will be entered into with park partners at locations for interpretive activities at each proposed park site. The alternative will provide a recognizable NPS presence in the three areas proposed for inclusion: Oak Ridge, Tennessee; Los Alamos, New Mexico; and the Hanford, Washington area.

**The degree to which the proposed action affects public health or safety.**

Both the Department of Homeland Security and the Department of Energy have regulations and policies in place to secure nuclear research and development resources and programs and to protect visitors from exposure to high explosives and hazardous or toxic waste materials. Due to the seriousness of the potential for radioactive contamination at some of these sites, the Department of Energy maintains an active program for the protection of the public, and works to mitigate impacts to public health and safety, which will continue under the selected alternative.

**Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.**

There are no designated wetlands, prime farmlands, park lands, wild and scenic rivers, or ecologically critical areas within the geographic area where the Manhattan Project resources under study are located. In the course of conducting the environmental assessment, these topics were dismissed from analysis.

The nationally significant historic resources of the Manhattan Project sites are the focus of this study. The actions proposed in this study are broad management alternatives that will not specifically impact prehistoric or historic archeological resources. The Department of Energy, which will remain the managing agency at the three sites (Los Alamos, Hanford, and Oak Ridge), will continue to administer the sites in accordance with current laws and regulations governing the activities of federal agencies. Any additional lands managed or acquired by the federal government will be subject to federal law and regulation.

The structures and buildings considered in this study are identified both as contributing and noncontributing resources of the Manhattan Project. Various properties at the three sites have been listed in or have been determined as eligible for listing in the National Register of Historic Places. Proposed alternatives for the use and treatment of these properties, including removal of noncontributing properties, could affect historic buildings, structures, and other character-defining features that contribute to the existing historic districts' significance.

The three Manhattan Project sites are part of potential cultural landscapes that were created specifically for the endeavors of the scientists and workers in the creation of the first atomic bomb. At Los Alamos, Oak Ridge, and Hanford, actual "cities" were built to accommodate the various individuals involved. Many of the physical features and materials and their interrelationships—including patterns of spatial organization, land use, circulation patterns, and buildings and structures—continue to exist today. Unique buildings and structures were constructed to solve scientific problems. Important structures, facilities, and features are still in place that allow these sites to convey their historical associations with the Manhattan Project.

**The degree to which effects on the quality of the human environment are likely to be highly controversial.**



There were no highly controversial effects identified during either preparation of the environmental assessment or the public review period.

**The degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks.**

There were no highly uncertain, unique or unknown risks identified during either preparation of the environmental assessment or the public review period.

**The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.**

The selected alternative neither establishes an NPS precedent for future actions with significant effects nor represents a decision in principle about a future consideration. A park unit that encompasses multiple sites in noncontiguous multiple states is not precedent setting as similar parks already exist in the system (e.g., Klondike Gold Rush National Historical Park in Washington and Alaska, and Chickamauga and Chattanooga National Military Park in Georgia and Tennessee).

**Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.**

Other past, present, or reasonably foreseeable actions were analyzed for the potential to contribute to cumulative impacts in association with implementation of the selected alternative. The following plans and actions could potentially contribute to cumulative impacts:

At Oak Ridge, the K-25 plant is scheduled for demolition. A number of other structures, including World War II/Manhattan Project-era facilities, are in deteriorating condition, requiring decommissioning or demolition. At Los Alamos, many Manhattan Project-era structures have been demolished or are scheduled for decontamination and decommissioning. However, national historic landmarks are protected in all three areas of the potential park, and the Department of Energy is considering an additional designation at Los Alamos. Implementing the selected alternative will encourage a higher degree of protection for Manhattan Project-era structures and increased accessibility to some of these structures.

Overall the predominately beneficial impacts of the revised alternative, in combination with the moderate, long-term or permanent, adverse impacts of other past, present, and reasonably foreseeable future actions, will result in a long-term moderate, cumulative effect. The adverse and beneficial effects of the revised alternative will be a very small component of any cumulative impact. Cumulative impacts will not be significant.

**The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources.**

After applying the Advisory Council on Historic Preservation's criteria of adverse effect (36 CFR Part 800.5, *Assessment of Adverse Effects*), the NPS planning team concluded that implementing any of the alternatives, including the revised alternative, will have *no adverse effect* on historic buildings and structures and cultural landscapes. There are no historic structures or identified cultural landscapes within the area of potential effect that could be adversely affected by project activities.

In compliance with Section 106 of the National Historic Preservation Act, the National Park Service consulted with the state historic preservation officers in the states of Ohio, Tennessee, New Mexico, and Washington

beginning in 2006. On December 18, 2009 the *Manhattan Project Sites Special Resource Study and Environmental Assessment* with the determination of effect for no adverse effect to historic properties was made available for comment and/or concurrence to the Tennessee, Ohio, Washington, and New Mexico state historic preservation officers. On March 22, 2010, a comment letter on the study and environmental assessment was received from the Tennessee state historic preservation officer. The state historic preservation officer in Tennessee asked that the National Park Service reconsider and revise alternative E to include Oak Ridge in any NPS unit that might be established. On February 25, 2010, the Washington state historic preservation officer likewise commented and requested a revision of the alternatives so that any future NPS unit includes Manhattan Project resources at Hanford and Oak Ridge in addition to those at Los Alamos. The New Mexico state historic preservation officer was contacted via phone on July 20, 2010 and concurred with the finding of no adverse effect to historic properties at Los Alamos. On August 31, 2010 the Ohio state historic preservation officer responded that they had no comment as there were no federal actions proposed for Dayton in the preferred alternative.

Also in December 2009, the National Park Service provided copies of the study and environmental assessment to the following tribal groups for review and comment: for the Los Alamos location—Zuni Pueblo, San Felipe Pueblo, Santa Clara Pueblo, Santo Domingo Pueblo, and Cochiti Pueblo, and for the Hanford location—the Confederated Tribes and Bands of the Yakima Nation, the Confederated Tribes and Bands of the Umatilla Indian Reservation, the Confederated Tribes of the Colville Reservation, the Nez Perce Tribe of Idaho, and the Wanapum Tribe. If a national park unit is created, the National Park Service will continue to consult with these tribes regarding the development of the Manhattan Project Sites National Historical Park. Comments dated March 1, 2010 were received from the Confederated Tribes of the Umatilla Indian Reservation. They expressed concerns regarding environmental cleanup, continuing consultation, and the lack of an appropriate range of alternatives. No other comments were received from any other tribal entities.

Throughout the study process, the National Park Service has regularly consulted with the Department of Energy representatives.

**The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.**

None of the alternatives propose actions that will adversely affect an endangered or threatened species or its critical habitat. The US Fish and Wildlife Service was consulted beginning in 2006 and were subsequently contacted again in March 2009. Threatened and endangered species will not be impacted by the creation of a Manhattan Project National Historical Park. In the course of conducting the environmental assessment, this topic was dismissed from analysis.

**Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.**

None of the alternatives violates federal, state, or local environmental protection laws.

## PUBLIC INVOLVEMENT

Public response to the study was overwhelmingly in favor of a national park unit that included Oak Ridge, Hanford, and Los Alamos. Based on this overwhelming response, alternative E has been revised to include Oak Ridge and Hanford along with Los Alamos in the national historical park. The following information captures the level of public involvement and process that led to the revision of alternative E. Substantive comments challenged the range of alternatives and also questioned the analysis regarding safety and security. The response to these substantive comments is attached to this document as an appendix.

The study team began seeking public comments on the project when it began scoping for the study. The scoping period officially began with a *Federal Register* notice published in January 2006, informing people about the study and asking for interested citizens and groups to communicate their ideas, issues, and concerns for the study. In addition, a newsletter containing information about the study was mailed to over 4,000 individuals and groups. The public scoping newsletter requested written comments to questions about a "20-year vision," "concerns for the future," and "opportunities/actions to be explored." Approximately 362 written responses were received. Key stakeholders were contacted for input on the study. Public scoping meetings were also conducted at Richland, Washington; Los Alamos, New Mexico; Santa Fe, New Mexico; Dayton, Ohio; and Oak Ridge, Tennessee, from March through June 2006. A total of 277 people attended these meetings. The public scoping comment period ran through June 30, 2006.

A second newsletter was mailed out in November 2006. This newsletter summarized some of the study team's preliminary findings, identified initial management concepts, and presented an array of land and resource management techniques for the sites.

A third newsletter was sent out in September 2009. The 2009 newsletter provided a summary and comparison of the five proposed alternatives and requested public comment. Comment forms were sent out with the third newsletter and the website for making comments was included. The complete study was made available through the website. Hard copies and compact disks of the study were provided to the public via the mail and at public meetings scheduled for November 2009.

The environmental assessment and study findings were provided to the public in November 2009. Public meetings were held at Richland, Washington; Los Alamos, New Mexico; Santa Fe, New Mexico; Dayton, Ohio; and Oak Ridge, Tennessee during January and February of 2010. A meeting scheduled for Washington, D.C. had to be cancelled because of inclement weather. Three hundred seventy-six people attended the meetings in the four cities. The comment period ended March 30, 2010.

Copies of the document were also provided to the appropriate state historic preservation offices and tribal historic preservation offices in all four states.

Comments were received electronically and through regular mail. All comments were entered into the NPS Planning, Environment, and Public Comment (PEPC) system for further analysis. Three hundred thirty-nine pieces of written correspondence on the environmental assessment were received and analyzed. Thirty different codes were developed with almost 1,000 separate comments noted.

The Los Alamos National Laboratory Historic Buildings Manager provided several pages of corrections regarding the Los Alamos site. These corrections were submitted during the public comment period and are found in an errata sheet attached as an appendix to this Finding of No Significant Impact. The Finding of No Significant Impact and errata sheet will be sent to all commenters.



## **APPENDIX A**

### **RESPONSE TO SUBSTANTIVE COMMENTS**

#### **SUBSTANTIVE COMMENTS**

By definition, substantive comments do one or more of the following:

- a) question, with reasonable basis, the accuracy of information in the document
- b) question, with reasonable basis, the adequacy of the environmental analysis
- c) present reasonable alternatives other than those presented in the document
- d) cause changes or revision in the proposal

The majority of comments regarding accuracy of information related to the responsibilities of the primary agencies: the National Park Service and the Department of Energy. Many said that NPS concerns were exaggerated, because the Department of Energy is required by law to maintain the Manhattan Project related facilities and provide for public safety.

While many commenters spoke to these DOE responsibilities, initially, DOE management had not demonstrated to the National Park Service a commitment to continue these current responsibilities within the context of a national historical park. The letter received from the Department of Energy dated May 13, 2010 addressed these responsibilities. In the letter, Dr. Ines R. Triay, Assistant Secretary for Environmental Management at the Department of Energy, clearly stated the Department of Energy's endorsement of a strong and permanent partnership between the National Park Service and the Department of Energy in which roles and responsibilities would be clearly delineated.

A very small number of commenters addressed the adequacy of the environmental analysis. While many acknowledged that these sites receive visitors now and therefore, are "safe," others expressed concern regarding how these sites would change with increased visitation that could result from designation as a national park. The DOE letter referenced above addressed NPS concerns regarding safety and security.

Of the 27 commenters who responded that a full range of reasonable alternatives was not described in the document, 12 specifically stated that more sites (or a specific site) needed to be included in any alternative considered. Finally, as noted previously, a large number of commenters suggested that a modification to the existing Alternative E, creating a three-site national park, might more accurately reflect the work of the Manhattan Project.

Alternative E was revised as a response to the above substantive comments regarding the DOE role, continuing safety and security, and the inclusion of Oak Ridge and Hanford along with Los Alamos as a three-site national park.





## **APPENDIX B**

### **IMPACT ANALYSIS FOR REVISED ALTERNATIVE E**

#### **ENVIRONMENTAL CONSEQUENCES OF REVISED ALTERNATIVE E: MANHATTAN PROJECT NATIONAL HISTORICAL PARK (WITH UNITS AT LOS ALAMOS, OAK RIDGE, AND HANFORD)**

##### **Historic Buildings and Structures and Cultural Landscapes**

Under revised alternative E, national register-listed or national register-eligible buildings and structures located on DOE property at all three locations would continue to receive protection under existing federal historic preservation laws. All stabilization, preservation, and rehabilitation efforts would be undertaken by the Department of Energy in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). Stabilization, preservation, or rehabilitation undertaken in accordance with the Secretary's Standards would have beneficial effects upon historic buildings and structures.

In addition to DOE-managed properties, the park will include certain privately or locally managed historic resources in the communities of Oak Ridge, Los Alamos, and the Tri-cities (Hanford) area. The Park Service would not be expected to acquire property for park operations at the Oak Ridge or Hanford units; possible acquisition of property at Los Alamos will be explored through the development of the general management plan for the park. National Park Service acquired properties that include national register-listed or -eligible buildings, structures, and cultural landscapes would be beneficially impacted for the long term. Although the responsibility for privately owned buildings and structures would continue to remain in the hands of local citizens, organizations, local and state governments, and private owners, at all three sites, the National Park Service would strive to coordinate efforts to protect Manhattan Project related historic buildings and structures; preservation efforts would be less fragmented than under alternative A, resulting in a beneficial impact. Similar to alternatives C and D, there would likely be an even more organized and coordinated effort at preservation under revised alternative E as compared to alternatives A through D. However, if resources fell into disrepair, deteriorated, or were inappropriately developed, the adverse impacts would be long-term or permanent, and of minor to moderate intensity.

Preservation efforts sponsored by the national park unit at all three sites could also beneficially affect potentially significant Manhattan Project-related cultural landscapes. The more aware that nonfederal owners of historic buildings and structures are of appropriate stabilization, preservation, and rehabilitation guidelines and standards, the less likely that such resources would undergo inappropriate repair or development that would adversely affect either the buildings and structures themselves or the historic viewsheds and visual relationships among landscape features. There is a potential for inconsistent long-term beneficial and adverse

impacts to privately owned and managed properties and landscapes within whatever boundaries are designated for the national historical park.

Surveys and research necessary to determine the eligibility of a building, structure, or landscape for listing in the National Register of Historic Places are a prerequisite for understanding the resource's significance, and form the basis of informed decision making in the future regarding how the resource should be managed. Such surveys and research would be a beneficial impact for the newly designated national park unit at all three locations.

### ***Cumulative Impacts***

At Los Alamos, Oak Ridge, and Hanford, all preserved Manhattan Project associated historic resources within the national park unit would benefit from NPS protection and interpretation. This beneficial impact would be long term. The same beneficial impacts would occur at Oak Ridge and Hanford.

In some instances other Manhattan Project-era structures within the Los Alamos National Laboratory, the Oak Ridge Reservation, and the Hanford site have already been demolished or are scheduled for decontamination and decommissioning. If the structures continue to deteriorate or are demolished, the impacts would be permanent, adverse, and of moderate intensity.

Actions in revised alternative E would result in predominantly beneficial impacts but also long-term, minor to moderate adverse effects to historic buildings and structures.

### ***Conclusion***

Under revised alternative E, historic preservation programs at the Department of Energy would continue for the management of historic properties and cultural landscapes, which would have beneficial impacts. Privately owned properties within the boundaries would be subject to long-term adverse impacts if they are not appropriately preserved. Adverse impacts would be long term and would range from minor to moderate in intensity.

The predominantly beneficial impacts of this alternative, in combination with the moderate, long-term or permanent, adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term moderate cumulative effect. However, the adverse effects of revised alternative E would be a very small component of the adverse cumulative impact.

**Section 106 Summary.** After applying the Advisory Council on Historic Preservation's criteria of adverse effects (36 CFR 800.5, *Assessment of Adverse Effects*), the National Park Service concludes that implementation of revised alternative E would result in no adverse effect on historic buildings and structures and cultural landscapes.

### ***Museum Collections***

Implementation of revised alternative E would result in a long-term, beneficial impact to museum collections at the Manhattan Project sites at

Los Alamos, Hanford, or Oak Ridge. These DOE-managed sites would continue to curate and manage collections according to existing cultural resource management planning and according to existing federal guidelines for collections. Museum objects that would become the property of the National Park Service would also experience a long-term, beneficial impact as they would be curated according to NPS policy in addition to the same federal guidelines for collections that the Department of Energy manages.

### ***Cumulative Impacts***

The cumulative impacts scenario for collections under revised alternative E relates to museum objects as well. Many of the buildings, such as the B Reactor at Hanford and the structural features of K-25 gaseous diffusion plant at Oak Ridge, include features, objects, and artifacts of the Manhattan Project era. Their loss to research and interpretation through demolition or removal would constitute a long-term, moderate, adverse impact.

The impacts of the other actions above, combined with the impacts of the alternative would result in a moderate, long-term, adverse, cumulative impact to museum collections.

### ***Conclusion***

Under revised alternative E, the curation of museum objects and archives at the three Department of Energy sites would continue, and other objects and archives would be acquired by the National Park Service. The management of these collections by both agencies as part of a three-site, multi-state national park unit would have beneficial impacts. As with alternative A, there is a potential for adverse impacts to privately owned collections, objects, and archives under revised alternative E where those collections would remain in private hands within the designated national park unit.

### ***Visitor Use and Experience***

Under revised alternative E the National Park Service would have the overall responsibility for interpretation and education at the three sites and would provide technical assistance to resource preservation efforts for any sites that would be formally associated with the Manhattan Project National Historical Park.

As a unit of the national park system, the Manhattan Project resources at Los Alamos, Hanford, and Oak Ridge, as well as other associated sites, would likely attract larger numbers of visitors than might come otherwise. Designation as an NPS unit would provide visitors with comprehensive interpretation of the Manhattan Project superior to that provided under alternative C or D. There would be better opportunities for increased recognition of the various Manhattan Project sites and a more comprehensive approach to interpretation that includes all three sites. A benefit would come from providing a more comprehensive visitor experience than that provided under alternative A.

Revised alternative E would result in minor to moderate, long-term, beneficial impacts. As with alternatives C and D, the NPS unit could appreciably improve the interpretation on the Manhattan Project by interpreting the interconnected story of the various sites at each

location, whereas currently each site interprets mainly its individual role in the project.

As a unit of the national park system, the sites would likely attract larger number of visitors than might come otherwise. Visitation at all three Manhattan Project "secret" cities is increasing yearly, especially at the Hanford site where regular tours of Reactor B fill up almost as soon as they are announced.

### ***Cumulative Impacts***

Adaptive reuse and potential demolition of some buildings at Los Alamos, Oak Ridge, and Hanford, would have a negligible, long-term, adverse impact. Currently, where visitors can access primarily the outside of buildings; they would not notice a change if buildings were adaptively reused. If a few buildings were demolished, some visitors would notice the alteration in the landscape, others would not. Demolition of some of the buildings could affect the experience as well as the long-term Manhattan Project visitation levels at the various sites, although these impacts would be negligible.

At Hanford, the completion of the Hanford Reach Interpretive Center would result in a moderate, long-term, beneficial impact to the visitor experience. The center is expected to increase visitation to Hanford. The center also plans new exhibits interpreting the Manhattan Project. Both of these actions would be beneficial impacts to visitor use and experience.

If a portion of the K-25 complex at Oak Ridge were to be preserved for interpretive purposes, it would create a moderate, long-term, beneficial impact to the visitor experience.

The impacts of other actions described above, in combination with the impacts of revised alternative E, would result in minor to moderate, long-term, beneficial cumulative impacts.

### ***Conclusion***

Implementation of revised alternative E would result in minor to moderate, long-term, beneficial impacts to visitor use and experience. Other impacts range from moderate, long-term, and adverse to moderate, long-term, and beneficial. The impacts of revised alternative E, in combination with those of other past, present, and foreseeable future actions would result in minor to moderate, long-term, and beneficial cumulative impacts at all three locations. The cumulative impacts of revised alternative E would comprise a relatively small portion of the overall cumulative effect.

### ***Socioeconomics***

Implementation of revised alternative E would result in a negligible to minor, long-term, beneficial impact to social and economic characteristics of the three Manhattan Project sites and surrounding regions. The creation of a national park unit would likely result in increased visitation, and this increase would likely be greater than if the managing entity were the consortium or a commission, due to the availability of federal funding. Currently tourism only makes a minor contribution to each locality's economy. Therefore, any changes in Manhattan Project tourism could be

noticeably, although it is likely to only make up only a slight portion of each area's total economy as the current focus is not on tourism.

### ***Cumulative Impacts***

Changes to building use at all three sites and some demolition of buildings in Los Alamos, Oak Ridge, and Hanford would likely result in a negligible long-term adverse impact to each region's economic environment. Slightly reduced visitation could affect total visitor spending.

Increases in visitation to the Hanford site proposed by the Hanford Reach Interpretive Center would have a negligible long-term beneficial impact on the regional economy. Plans are also underway to increase the number of visitors allowed to tour the B Reactor.

At Oak Ridge, the potential reuse of a portion of the K-25 building as a visitor center and museum would result in a negligible, long-term, beneficial impact to the regional economy, as additional visitors and dollars could come to the area.

At Los Alamos the acquisition of land by the NPS and the establishment of a formal visitor center and park headquarters would potentially increase the numbers of visitors to the area and could possibly encourage visitors to stay longer than they would otherwise. Los Alamos could become another destination of focus for those already coming to the area to visit Bandelier National Monument or the Valles Caldera National Preserve. This would have a long-term negligible to moderate beneficial impact on the local economy at Los Alamos.

Each of the other actions results in negligible impacts to the regional economies because tourism plays a minor role in each of the regions; it makes up an estimated 4% to 8% of each total economy. Additionally, the Manhattan Project site at Hanford is not the primary draw for tourists, and therefore would likely make up a smaller portion of the economy than does tourism overall. Hanford area's tourism is largely due to the local wineries and recreational activities.

The impacts of other actions described above, in combination with the impacts of revised alternative E, would result in negligible to moderate, long-term, beneficial cumulative impacts to the Manhattan Project sites and their local regions. The cumulative impacts of revised alternative E would comprise a relatively small portion of the overall cumulative effect.

### ***Conclusion***

Implementation of revised alternative E would result in a negligible to moderate, long-term, beneficial impact to socioeconomics of the Manhattan Project sites. Other actions would result in impacts ranging from negligible, long-term, and adverse to negligible, long-term, and beneficial. Revised alternative E, in conjunction with other actions would result in long-term beneficial impacts that are negligible in intensity.



## APPENDIX C

### ERRATA FOR THE SPECIAL RESOURCE STUDY

#### ERRATA FOR THE SPECIAL RESOURCE STUDY

The following corrections to the special resource study were received from the Los Alamos National Laboratory Historic Buildings Manager. Alternative E in the original study called for the creation of a park unit that included resources at Los Alamos. These corrections were submitted during the public comment period.

#### CORRECTIONS

**Page 16:**

The locations of Laboratory sites behind the fence shown on the map on page 16 are not correct, especially the Quonset Hut and Concrete Bowl properties (they are shown on Threemile Mesa when they are actually located on Twomile Mesa).

**Pages 17 and 36:**

The Baker House is one of the five private residences on Bathtub Row and is not usually called out separately.

**Page 19:**

“Ashley Pond’s failed dude ranch, and the Pajarito Club...”

This should read: “failed dude ranch, the Pajarito Club.” They are one and the same.

**Page 42:**

The description of implosion on this page is not entirely accurate. Subcritical pieces of plutonium are not pushed together. Here is a fairly standard description used in LANL documents: “The implosion design...used shaped high explosives to compress a subcritical mass of plutonium-239. The symmetrical compression will increase the density of the fissionable material and cause a critical reaction.” (From *Sentinels of the Atomic Dawn: A Multiple-Property Evaluation of the Remaining Manhattan Project Properties at Los Alamos (1942-1946)*, LA-UR-03-0726.)

**Page 98:**

LANL is no longer 43-square miles in size. Recent land transfers have reduced the Laboratory’s area to approximately 36-square miles.

**Page 99:**

The Early Cold War Period at LANL is from 1946 to 1956. The Late Cold War Period encompasses the years 1956 to 1990.

**Page 99:**

“only a handful are currently deemed suitable by the Department of Energy for long-term preservation and interpretation.”

The Laboratory's list of historic properties that are candidates for preservation is included in the 2006 CRMP. It includes more than the five LANL facilities highlighted in the special resource study under review. This list has been updated since 2006 and currently includes eighteen properties dating from the Manhattan Project era.

**Page 100:**

The Bradbury Science Museum is not located at the Laboratory. It is located in downtown Los Alamos.

**Page 115:**

The text under "Cumulative Impact Scenario" describing the status of Los Alamos historic buildings and structures is somewhat confusing. "Remaining structures" can't have been demolished. It is probably better to say, "Of the remaining properties from that period, some have been targeted for possible retention, while others are scheduled for decontamination and decommissioning."

**Pages 118, 122, 128, 133, and 138 (same "Cumulative Impacts" text):**

"At Los Alamos, all Project Y sites are to be preserved, but other Manhattan Project-era structures within the Los Alamos National Laboratory have already been demolished or are scheduled for decontamination and decommissioning."

The distinction in this section between Project Y and the Manhattan Project doesn't quite make sense: Project Y was the code name for the Los Alamos effort during the Manhattan Project. These terms are synonymous. Also, a point of clarification regarding the use of the terms "buildings" and "structures" at LANL. These are not synonymous. Here is the definition from our CRMP: "The distinction between buildings and structures is that buildings are designed for sheltered occupancy by humans, animals, and materials, while structures are architectural and engineering features not meant to be occupied (e.g., berms, firing pits, utility corridors, landscape elements). Together these are commonly referred to as the "built environment."

**Page 149:**

The address and phone number for Los Alamos Historical Society are incorrect. They should be corrected as follows:

1050 Bathtub Row  
P.O. Box 43  
Los Alamos, NM 87544  
505-662-6272

**Page 152:**

The correct citation for the LANL CRMP is as follows: *A Plan for the Management of the Cultural Heritage at Los Alamos National Laboratory, New Mexico*, LA-UR-04-8964 , March 2006.

**Page 153:**

Although the Ranch School Guest House is the current location of the Los Alamos Historical Museum, it is not owned by the Los Alamos Historical



Society. This building is owned by Los Alamos County. Again, as noted above, the Baker House is a private residence and is usually grouped with other private residences on Bathtub Row and is not called out separately. According to Los Alamos Historical Society staff, the Oppenheimer House was purchased in 2004, not 2003. Also, the same staff were unaware of any discussion concerning the possible demolition of the Stone Powerhouse (also known as the Red Cross Building).

**Page 154:**

“All of these buildings/structures are in secure areas of the reservation...”

A better word choice in this sentence will be “Laboratory” rather than “reservation.” The earlier use of the word “reservation” on this page should be deleted and “on land” should be substituted.

**Page 154:**

“Currently, landscaping at the V-Site is being completed, and the planning phase of restoration of the Gun Site landscape will soon commence.” This sentence doesn’t quite make sense. V-Site was restored, not landscaped. At the time of the special resource study, the planning phase for the restoration of the Gun Site facility (not landscape) was just getting underway.

**Page 154:**

“Activities have been moved out of the “Criticality Accident...”

This use of the building description is confusing. This should be changed to read, “moved out of TA-18, thus reducing its security level.” The nomenclature used to describe the buildings in this section will also be further discussed in the comment section below; however, “Laboratory/Staging Area” should be replaced with “TA-18’s Slotin Building.”

**Page 155:**

Table A: Summary of Ownership of Los Alamos Sites

As noted above, the Ranch School Guest House is owned by Los Alamos County. Also the Baker House shouldn’t be called out separately. There are a total of five privately owned residences on Bathtub Row (this number includes the Baker House).

**Page 180:**

“Washtub Row”

Mr. Gosling’s draft review quoted from earlier version of the special resource study. The use of “Washtub Row” is incorrect. It should be “Bathtub Row.”

**Page 186:**

The Laboratory was not “built on a mesa that previously hosted the Los Alamos Ranch School.” The wartime Laboratory’s facilities, like those of the modern Laboratory, were located on mesas and in a canyon area that

comprise major portions of the Pajarito Plateau. Although the early Laboratory did appropriate the Los Alamos Ranch School buildings located in today's downtown area, U.S. Forest Service and privately-owned (previously homesteaded) lands were also appropriated as part of the war effort.

**Page 187:**

The list of Manhattan Project Related Sites listed under Los Alamos seems unrelated to the discussion of area resources presented earlier in the document. V-Site is called out separately and DP Site is mentioned for the first time, but the Gun Site, Quonset Hut, etc. are not listed. Also, V-Site is located within the boundaries of S-Site, so including both seems redundant. "Tech Area" is either a reference to the Main Technical Area (i.e., the wartime Laboratory area located in what is now downtown Los Alamos) or is just a general reference term. This use on the list is vague because there were many "tech areas" at the Laboratory during the Manhattan Project years. The correct name for the Ranch School is the "Los Alamos Ranch School." Also the bullet for the Metallurgical Laboratory and its resources shouldn't be under the heading of Los Alamos, it should have its own entry.

## **GENERAL COMMENTS FROM THE LOS ALAMOS NATIONAL LABORATORY HISTORIC BUILDINGS MANAGER**

### ***Uniform Historic Property Descriptors***

The report is sometimes confusing because the names of the various LANL Manhattan Project historic properties are not cited in a consistent manner throughout the text (see pages 6, 18, 37, 57, 60, 63, 64, 67, 154, 155, and 189). This is the result of changes in nomenclature used at LANL over the years. On page 154, for example, the V-Site Assembly Building is mentioned in the same paragraph as the High Bay building at V-Site (these are actually both names for building TA-16-516). The adjacent laboratory and equipment building (TA-16-517) also survived the fire, but is not mentioned in the text.

Also, the Pond Cabin at TA-18 (mentioned in Table 1, page 39) has now been added to the initial list of five key Manhattan Project buildings and structures that will be contributing properties to an expanded Manhattan Project National Historic Landmark district (see discussion below).

Current nomenclature used at LANL for the key Manhattan Project properties is as follows:

- “Trinity Test” V-Site (TA-16), Buildings TA-16-516 (Assembly Building) and TA-16-517 (Laboratory/Equipment Building)
- “Little Boy” Gun Site (TA-8), Buildings TA-8-1, TA-8-2, and TA-8-3
- “Fat Man” Quonset Hut (TA-22), Building TA-22-1
- “Plutonium Recovery” Concrete Bowl (TA-6), Structure TA-6-37
- “Criticality Accident” Slotin Building (TA-18), Building TA-18-1
- “Pond Cabin” (TA-18), Building TA-18-29

### ***DOE Signature Facility Text***

Pages 10, 154, and 186 (footnote text):

The Gun Site, although not initially listed in 1999 as a DOE Signature Facility of the Manhattan Project, was added to the list (see DOE website: <http://www.energy.gov/about/SignatureFacilities.htm>). The text on the website and in the special resource study on page 10 is confusing because it still retains text referring to eight signature facilities. The Gun Site is lumped with V-Site on the list, but should really be listed separately (making a total of nine signature facilities).

### ***LANL NHL Language in the Special Resource Study and Current NHL Nomination Plans***

Pages 18, 36, 39, 99, 153 and 154:

The plan to nominate five key LANL Manhattan Project properties as a “Project Y” Manhattan Project National Historic Landmark District has been modified since the LANL CRMP was finalized in 2006. The focus has shifted to nominating the five key properties highlighted in the Special Resource Study (and other properties such as the Pond Cabin) as contributing properties to the existing “Los Alamos Scientific Laboratory” National Historic Landmark District currently located in downtown Los Alamos. The historic context for the existing NHL district is the Manhattan Project history of Los Alamos and the early Laboratory, essentially the same

historic context as the potential "Project Y" NHL district identified in the 2006 CRMP.

Page 18 also has outdated language regarding LANL organizational structure. A suggested clarification on this page, on page 36, and on page 154 will be as follows: "In 2002, a study was undertaken to prepare a..." The five LANL properties listed at the bottom of page 153 are not individually listed National Register properties. They have been declared "potentially eligible" for the National Register in consultation with the New Mexico SHPO.