

Hanford's Public Tour Program – An Excellent Educational Tool – 11439

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ABSTRACT

Prior to 2001, the U.S. Department of Energy (DOE) sponsored limited tours of the Hanford Site for the public but discontinued the program after the 9/11 terrorist attacks on the United States. In 2003, DOE's Richland Operations Office (DOE-RL) requested the site's prime contractor to reinstate the public tour program starting in 2004 under strict controls and security requirements. The planning involved a collaborative effort among the security, safety and communications departments of DOE-RL and the site's contracting companies. This paper describes the evolution of, and enhancements to, Hanford's public tours - including the addition of a separate tour program for the B Reactor (the first full-scale nuclear reactor in the world). The discussion includes the history and growth of the tour program, associated costs, and visitor surveys and assessments.

INTRODUCTION

Hanford Overview

Hanford, a U.S. Department of Energy (DOE) site in southeastern Washington state, covers 586 square miles (1,517 square kilometers) with 50 miles (80.47 kilometers) bordered by the Columbia River (Fig. 1). Located north of the city of Richland, the Hanford Site was established by the U.S. government during World War II as part of the country's secretive "Manhattan Project" – the code name for the nation's nuclear-defense program for developing the first atomic weapons. The U.S. Army Corps of Engineers supervised the Manhattan Project, which also included installations in Oak Ridge, Tenn., and Los Alamos, N.M.

Hanford produced 60 percent of the plutonium needed for the nation's nuclear-weapons program. The extensive reservation houses nine former nuclear reactors and their associated processing facilities that operated during World War II and throughout the Cold War. Shrouded in secrecy during its plutonium-production era, the Hanford Site was closed to visitors for decades. Today the DOE supports opportunities for the public to learn about Hanford's role in the nation's history and to see firsthand current cleanup activities through the Hanford Site Public Tour and B Reactor Tour Programs.



Fig. 1. The 586-square mile (1,517 square kilometer) Hanford Site is located in southeastern Washington state.

BACKGROUND AND PLANNING OF HANFORD'S PUBLIC TOUR PROGRAM

Prior to 2001, DOE sponsored public tours of the Hanford Site, which were discontinued after the 9/11 terrorist attacks. Known as the "Saturday Road Tours," these tours were very limited – conducted only on select Saturdays during the spring and summer and led by retirees from the site. In 2003, DOE's Richland Operations Office (DOE-RL) requested the Hanford Site's prime contractor at the time to reinstate the public tour program beginning in 2004 under new post-9/11 controls with enhanced security requirements under the revamped "Hanford Site Public Tour Policy."

The planning to reinstate the public tour program involved collaboration among the security, safety and communications departments of DOE-RL and the site's contracting companies. This effort was complicated because Hanford is home to three separate DOE Field Offices – Richland Operations, the Office of River Protection (ORP) and the Pacific Northwest Site Office (PNSO) – five prime contractors and a national laboratory (Pacific Northwest National Laboratory). Given this complexity, tour organizers had to address and agree upon every detail: from selecting tour dates to accommodate various DOE and contractor schedules, to developing security procedures according to DOE's new public tour policy and integrating Hanford's safety practices into all public tour activities.

Contingencies also had to be in place for any unforeseeable situations involving members of the public. DOE outlined expectations in their new public tour policy – such as controls on cell phones, cameras and recording equipment, and size limitations for carry-on bags. However, there was no process for enforcing those restrictions. Extreme security measures on the Hanford Site demanded procedures for addressing any issues that could pose a risk to both Hanford employees and the tour participants.

A number of other key areas were involved in planning and coordinating the program for bringing members of the public back onto the Hanford Site. Examples included developing a process for facilitating visitor registration and badging, securing transportation for tour participants, setting a tour route compliant with the new security measures and obtaining qualified escorts/tour guides. In addition, all communications efforts surrounding the tours (e.g., instructions and guidelines for participation in public tours, the tour script, website content, and collateral literature and press releases) required thorough reviews and approvals from DOE and its prime contractor before anything was issued. This approval included consent by personnel from the communications, security and legal divisions, along with that of senior management.

Foremost, any safety concerns had to be addressed before members of the public were allowed onto the sprawling and contaminated Hanford Site.

HANFORD PUBLIC TOURS – THE BEGINNING

After several months of planning, the prime contractor, with DOE's approval, launched the new Hanford Public Tours in the summer of 2004. The local newspaper carried the headline that for the first time since the 9/11 attacks, the public could again visit the Hanford Site.

As in the pre-9/11 tours, the 2004 tour program was limited to Saturdays only, with four tours offered that first year. The majority of the approximately 160 visitors came from the local area, meeting in the parking lot of Richland's Federal Building before boarding commercial 44-passenger buses that would take them out to the Hanford Site. Interested tour participants reserved seats on the tours through a time-consuming manual registration process with follow-up phone calls made to those on a waiting list if any seats became available through cancellations.

An experienced Hanford employee provided commentary on the bus throughout each four-hour tour. The tour route was limited to a small area of the site and included only one stop – the historic B Reactor. The B Reactor, built in just 11 months in 1943, was the world's first full-scale nuclear reactor. The unit produced plutonium for the bomb dropped over Nagasaki, Japan, at the end of World War II. The visit to the reactor consisted of a walking tour of the facility usually led by former employees who had worked at the reactor, some who were now in their late 70s and early 80s.

The content of these tours was primarily historical with the tour guide on the bus pointing out and describing the historical significance of buildings and sites along the route. However, with the tours restricted to Saturdays, visitors neither saw nor appreciated the tremendous amount of work underway to clean up the radioactively contaminated facilities and waste sites – activities that their tax dollars were funding.

GROWTH OF THE PUBLIC TOUR PROGRAM

Despite the fact that the 2004 tours were predominantly a historical view of Hanford, public response was overwhelming. Seats on the four buses had filled almost immediately with another 100 names on a waiting list. With the resounding success of the reinstated public tours, the prime contractor looked for ways to improve the overall program and market the tours to a larger audience. As a result, electronic registration for public tour reservations became available; an expanded tour route showed cleanup progress across many of Hanford's cleanup projects; and the number of tours offered each year increased. An additional feature was a visitor survey to help planners see the strengths and weaknesses of the program, track the demographics of the participants and enhance the overall tour experience.

In 2005, a sophisticated online reservation system replaced the tedious manual registration process for signing up tour participants and preparing badges for the visitors. Housed on DOE's Internet website, the online registration now provides a systematic and efficient process for visitors to reserve seats on the tours, including an automated feature that opens seats that become available from cancellations. In addition, the computer program generates a variety of useful reports and rosters used in managing the public tour program. The DOE also uses the website to register members of the public for other special tours, such as the Blue Ribbon Commission's visit to Hanford in July 2010. Hanford duplicated the online system for use at the U.S. Department of Energy's Savannah River Site in Aiken, S.C., for their public tour program as well.

The 2005 tours were a significant milestone in the evolution and success of the program. Besides the new electronic registration, tours began to take place on weekdays rather than being restricted to Saturdays – allowing visitors to see workers actively engaged in diverse cleanup activities. This weekday access required collaboration from several of the Hanford contractors and the DOE field offices to ensure the tours did not interrupt day-to-day operations. Weekday tours also gave visitors the opportunity to get off the bus to listen to subject matter experts describe current Hanford cleanup work and present future plans for the site. Now, rather than just driving by buildings, visitors can see and come to appreciate the difficulty of the work and commitment of the workers cleaning up the site.

Showcasing Hanford’s cleanup projects truly enhanced the overall experience for the visitors, and additional stops were added to the tour route in the following years. The B Reactor walking tour and historical information about Hanford remained as well. The tours gave visitors a comprehensive view of the site – telling Hanford’s story “full circle,” beginning with the site’s original mission of plutonium production through today’s massive cleanup efforts. The DOE believes it is important for the public to understand how the chemical and nuclear waste came to be at Hanford so they can appreciate the complexities involved in current cleanup work. Federal funding from the American Reinvestment and Recovery Act (ARRA) has accelerated many of Hanford’s project activities since 2008, and the public tours actively show where taxpayers’ money is being spent.

Additionally beginning in 2008, the length of each tour increased from four to five hours to accommodate the extra stops along the route. Hanford projects included in the public tour program vary from year-to-year. Tour planners assess current cleanup activities on an annual basis to determine which cleanup projects to showcase during each tour season. This decision again involves collaboration from the different DOE offices and the various Hanford Site contractors in order to maximize the public tour experience for visitors while ensuring that the tours do not interrupt important cleanup work.

A featured cleanup project has been Hanford’s Waste Treatment and Immobilization Plant Project (or Waste Treatment Plant), currently the largest construction project in the world (Fig. 2). The facility is targeted for completion in 2015 and should be operational by 2019. It will be the world’s first chemical-wast<http://www.hanford.gov/-wtp2e> processing facility capable of separating Hanford’s radioactive liquid waste into a stable glass form suitable for permanent, safe disposal. From 2006 to 2009, the tour buses drove visitors around the construction site with a subject matter expert on board to brief the visitors on the massive



Fig. 2. An aerial view shows the immense footprint of Hanford’s Waste Treatment Plant construction site.

project. However, work activities in 2010 made it too difficult for the buses to navigate safely around the construction site.

The 2008 tours presented information to visitors on the site's waste-retrieval activities. Visitors had the opportunity to get off the bus at Hanford's 12-B Burial Trench where subject matter experts briefed them on the retrieval of buried solid waste left from Hanford's plutonium-production processes, some of which has been underground for more than 40 years. The presentation also included a manikin dressed in proper personal protective equipment so that visitors could get a close-up look at what Hanford workers wear while working around the contaminated waste.

The Environmental Restoration Disposal Facility (ERDF) (Figs. 3 & 4) is a massive landfill located in the central part of Hanford. The facility, built in 1996 for Hanford cleanup wastes, was designed for expansion as needed and is undergoing its fourth and largest expansion. When completed, ERDF will have a disposal capacity of 16.4 million tons (14.8 metric tons) of contaminated material and cover the same area as 52 football fields. Since the facility opened, nearly 11 million tons (9.98 metric tons) of low-level radioactive and hazardous waste have been buried there. The site is a popular stop for Hanford tourists and has been on the public tour route every year since 2005.



Fig. 3. ERDF is located in the center of the Hanford Site. It accepts low-level radioactive, hazardous and mixed wastes generated during cleanup activities at the Hanford Site.



Fig. 4. A truck dumps waste into ERDF. In 2008, an average of 150 truckloads of waste was disposed per day. In 2010, more than 650 truckloads were disposed on some days.

The B Reactor portion of the tours is for many the highlight of the tour experience. A number of tour participants through the years either personally worked at the reactor or have other direct affiliations with the facility. A notable visitor in 2005 was Watson Warriner, (Fig. 5) a personal friend of the late Robert F. Stewart (the lead engineer for constructing the B Reactor). Warriner, who had been the assistant division engineer in charge of constructing Hanford's 200 East Area, traveled with family members from Delaware solely to return to his former worksite. Warriner brought along his Hanford badge, issued in February of 1944, when he came to Hanford for his tour.



With the tremendous public interest in B Reactor and to complement the Hanford Site Tours Program, the DOE developed a separate program in 2009 that focuses on visits solely to the B Reactor. The B Reactor (Fig. 6) was designated a National Historic Landmark on August 19, 2008, and is now maintained in a state that preserves its historical significance. While the site tours pass through Hanford's security gate requiring visitors to be badged, a public-access road eliminates the badging requirements for travel to the B Reactor. Visitors to the reactor are still required to show valid identification (e.g., driver's license) and given security and safety briefings before they begin their tour. In addition, "B Reactor only tours" allow visitors to carry cell phones because the visitors do not access the secure areas of the Hanford Site.

Fig. 5. A Hanford contractor featured Warriner in one of their 2005 newsletter articles.



Fig 6. The historic B Reactor sits on the vast landscape on the Hanford Site.

The B Reactor tours allocate a full two-hour guided tour of the facility – 45 minutes longer than the standard presentation that is part of the Hanford Site tours. Highly trained B Reactor docents escort visitors around the historic reactor during both the B Reactor and Hanford Public Tours, giving a briefing at the reactor face where people can see the fuel rod penetrations and the control room where Enrico Fermi oversaw the unit's startup. Videos shown throughout the tour illustrate the B Reactor during construction and operation and include interviews with former B Reactor personnel who share stories on what life was like during that time.

Like other areas of the tour program, the site for beginning and ending the public tours has advanced in stages. The first tours in 2004 originated at the Federal Building, with visitors meeting in the parking lot and being issued badges by a single individual before they boarded the tour bus. From 2005-2009, visitors met at Hanford's Volpentest HAMMER Training Center (HAMMER stands for Hazardous Materials Management and Emergency Response). There, tour participants could gather in the lobby of the campus' administrative building and wait in chairs for the tour to begin. It also provided a venue for Hanford's Central Badging Office personnel to issue the visitor badges in a comfortable setting. Additionally, members of the public had the opportunity to see the HAMMER facility – a nationally recognized training center that services Hanford and non-Hanford customers and specializes in interactive hands-on performance based training. For several years, a tour of HAMMER's training campus was a part of the beginning of the tour route. However, there were parking issues at times and occasional interference with other facility activities.

Today both the Hanford Site Public Tours and the B Reactor Tours originate at a new facility established in 2009. The new "B Reactor Tour Headquarters" houses a wide variety of historical black-and-white photos and various artifacts from the original Hanford era. It also has a large room for tour guides to present a 15-minute "Hanford overview" to visitors before they board the

tour bus. The B Reactor Tour Headquarters provides a warm and welcoming environment for the visitors and is a tremendous asset to the overall public tour programs.

The increase in the number of tours each tour season since reinstating the public tours is an amazing statistic of the program. From just four tours in 2004, DOE now offers 60 public tours each year to help accommodate the overwhelming demand from the public – a 1,500 percent increase! The tours typically run from mid-April through mid-September, hosting approximately four to six tours on designated weeks. Inclement weather in the northwest region precludes the DOE from conducting public tours in the winter months.

Some may find it amazing that a former nuclear site for plutonium production would be such a draw. However, popularity of the public tours is one of the site's biggest success stories. Seats on the 60 free tours fill within minutes of the website's opening for tour registrations each spring. News stories and travel articles publicize the Hanford tours beyond the Tri-Cities area, and in recent years the Hanford tours schedule has been included in many visitor brochures and newspapers regionally and nationally.

High interest in the public tours draws widespread attention from the media. In addition to local coverage, regional and national news outlets tout securing seats on the tours as quite the accomplishment. These include a September 2007 USA Today headline that read, "Nuclear reactor a tourist hot spot," quoting someone who snared a ticket for a tour in June [of 2007], who compared it to "hitting the lottery." The Seattle Times featured the tours on the front page of the paper in October 2007 (Fig. 7), and also ran a headline in June 2008 announcing, "Free Hanford nuclear tour is a hot ticket." In addition, this past March, the Tri-City Herald ran the headline, "Hanford tours hot ticket, sold out for year," after more than 2,500 people signed up for the tours in just 13 hours. Media also participates in several tours each year and captures the experience in print and through television broadcasts.



Fig. 7. The Seattle Times featured Hanford's Public Tours on the front page of the paper in October 2007, in addition to another article on the public tours in June 2008.

PROGRAM MANAGEMENT AND COSTS

The External Affairs division of Hanford contractor Mission Support Alliance, LLC, (a Lockheed Martin/Jacobs/WSI Company) now manages the Hanford public tours for DOE's Richland Operations Office. The tours operate on a small annual budget of less than \$20,000 (€15,416) in direct costs, which covers the expense of bus rental and bottled water offered on the tours. The DOE funds the personnel who support operations of the program, along with the direct costs. There is no cost to tour participants.

EVALUATING THE HANFORD PUBLIC TOURS

A tour survey introduced in 2006 gives information on the demographics of tour participants, provides visitor feedback of their tour experience and helps future planning of the tour program. Surveys show that visitors to Hanford range in age from 18 to 75 or above and travel from almost every state in the nation. In some instances, the site has become a destination spot with visitors planning their vacations around the tour schedule. Some of the visitors are past Hanford employees wanting to visit former work sites; however, the majority have an educational or general interest in seeing Hanford.

Visitor comments also help in making changes and improvements to the program. An example is the Hanford overview that tour participants receive before they board the tour bus. This new feature became a part of the program in 2010, stemming from visitors' comments suggesting the need for a general understanding of Hanford's past and current mission to help prepare them for what they would see on their tour. Another area of change came in allowing more time on the schedule at the B Reactor after numerous visitors remarked that they felt rushed during that portion of the tour.

In addition, the surveys provide public opinion feedback about the current work at Hanford. In 2010, more than 80 percent of the visitors rated the progress of Hanford's cleanup mission as "satisfactory" or "productive" after seeing the site. Most importantly, almost every tour participant noted that the tour had provided him or her with a better overall understanding of Hanford.

SUCCESS OF THE HANFORD PUBLIC TOURS PROGRAM

The success of the Hanford tour program begs the question, "What is so appealing about visiting a piece of desert in southeastern Washington state?"

For some the tours provide the opportunity to return to Hanford and show family members their former worksites, while others come to get a firsthand look at the progress in cleaning up the massive Hanford Site. For many the interest is to visit the B Reactor and learn about the human ingenuity behind the reactor and its role in history.

Whatever the reason, personal comments on the surveys articulate the true success of the Hanford Public Tour Program. One tour participant summed up the experience with the following remark, "Fascinating, educational, interesting, concerning and reassuring. I had high hopes for this experience and it did not disappoint. I very much appreciated this opportunity and the guides' time [and] expertise. It was refreshing to hear the honest and open discussion of what has [and] is being done here. Thank you and please continue tours for others!"

In the end, it's a win-win for all. Visitors enjoy learning about Hanford's significant role in history and seeing their tax dollars at work. DOE and the Hanford contractors have the opportunity to show the public today's innovative advancements in the cleanup mission. Hanford's public tours: a success story with a promising future.