

K-25 - a KEY element for successful Heritage Tourism in Oak Ridge

(As published in *The Oak Ridger's Historically Speaking* column on March 3, 2009)

How does Oak Ridge compare to other Department of Energy sites regarding Heritage Tourism? What special efforts are being made across the nation to promote the DOE historic properties and to allow the public access? What is being done that enhances the communities' ability to attract tourists and to keep them overnight or longer, thus reaping full potential benefits of the close association between the department and its host communities?

There is an increased awareness within DOE that the President's Executive Order 13287 requires partnerships with communities that promotes, encourages, and enables Heritage Tourism. For example the following excerpt is cited: **"...suitability of the agency's types of historic properties to contribute to community economic development initiatives, including heritage tourism..."** How are we doing there? How are others in similar situations doing?

The order further states: **"...assistance shall include efforts to strengthen and improve heritage tourism activities throughout the country as they relate to Federally owned historic properties..."** DOE Oak Ridge Operations has spent months working with community groups trying to determine the best methods to preserve the history of our heritage at K-25.

This is one example where extensive resources have been applied, where substantial effort and interaction attempted to come to a solution that saved even a portion of the structure, yet the final decision required demolition of the most historic structure there. What is possible? How can the history of this World War II and Cold War monument be preserved? This article will conclude with specific details of a viable path forward for the historic K-25 site.

But first, how do we compare to other sites when the scope of our work, experiments and accomplishments that have changed the world are considered? What is being done to assure the next generation and the next will know about Oak Ridge...literally a city whose name is currently recognized world-wide without further reference, but not nearly so well known nearby!

Oak Ridge - 60 cents of every dollar spent during the Manhattan Project was spent here. Oak Ridge - the FIRST Manhattan Project site selected. Three large facilities were located here, each unique in their contributions to end World War II, fight and win the Cold War and support our nation's various scientific needs through the years. The Cold War was won primarily because of Y-12's output during the 1980's! Scientific breakthroughs at the Oak Ridge National Laboratory continue to make history...the world's fastest open source computer, the world's most powerful pulsed neutron source and on and on...but you get the message.

Oak Ridge - the genesis of Nuclear Medicine using Y-12's calutrons and Oak Ridge National Laboratory's Graphite Reactor and the early days of Oak Ridge Associated University's Institute for Nuclear Medicine. ***Oak Ridge – where science keeps on making history.*** Sounds appropriately fine to me...how about you?

The Department of Energy has announced sixty five-hour public tours of the Hanford Site. Oak Ridge's two-hour public tours run from June thru the first of September one a day and can accommodate a maximum of 35 people per tour. Hanford has opened their "B" Reactor to public tours. Our Graphite Reactor is on our public tour, at Y-12 visitors see the New Hope Center's Y-12 History Exhibit Hall and at K-25 they are given a drive by view of the site and view the welcome center displays.

At Los Alamos, the Bradbury Science Museum is the key feature. Much like our American Museum of Science and Energy, it caters to the history buff, but also stresses science and discovery. While both these museums feature portions of the history of both cities, they serve more to introduce the heritage tourist to the historic heritage than to allow them to delve deeply into the richness of the culture and exhibits of seeing the real thing, the real equipment, smelling

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the place, knowing one is where it actually happened. Authenticity is a key element of Heritage Tourism.

The American Museum of Science and Energy has just completed the finishing touches on its original and very much authentic Ken and Isabelle Smith Flat Top house. That is Heritage Tourism in action. What people want to see is the REAL THING. Interestingly the house was separated into its three sections to move back to Oak Ridge, just like it would have been done when it was first built. Go see it. You will better appreciate the living quarters of the Manhattan Project era in Oak Ridge.

At Savannah River Site there is an entire section of their web site dedicated to special requested tours of the site. They also have online registration of public tours of which there are six three-hour tours planned in 2009. Hanford has online registration also...Oak Ridge does not.

At DOE Oak Ridge Operations' web page the following encouragement is found: "Citizens are encouraged to learn about the Department of Energy's programs through a variety of activities that are open to the public. Our goal is to educate citizens and seek their meaningful involvement."

The DOE ORO web site continues: "If you are visiting the area, the **American Museum of Science and Energy** in Oak Ridge is the best starting point for exhibits and information about DOE programs in science, environmental management, nuclear fuel supply, and national security. Tours are conducted of the Oak Ridge National Laboratory, Y-12 National Security Complex and East Tennessee Technology Park during the summer months departing from the Museum."

When Hanford first opened the "B" Reactor (now a National Historic Landmark) to public tours, they filled them online within minutes. In 2005, Oak Ridge's premier Heritage Tourism event, the Secret City Festival, featured first ever tours for the public into Y-12's Beta 3 Calutron building. We established online registration and literally thousands of people visited over that weekend and the special weekend we had to schedule for Y-12 employees and their families.

At the risk of showing my prejudice, these calutrons are among the Heritage Tourism CROWN JEWELS of Oak Ridge. The Department of Energy and the National Nuclear Security Administration recognize the key role they play in telling the history of the Manhattan Project and the Medical Isotope program.

The K-25 site also has CROWN JEWELS that can be converted into an even more accessible Heritage Tourism destination. K-25 played an extensive key role in the nuclear history of the country. From its auspicious beginning as the world's largest building under one roof and the most costly building in the entire Manhattan Project (over \$512 million or \$6 billion in today's dollars!) to its place in our history today, the K-25 site is a key to Heritage Tourism in Oak Ridge.

The output of the gaseous diffusion process helped shorten World War II and then went on to produce the world's first appreciable quantities of enriched uranium needed to launch the nuclear era. Enriched uranium from K-25 provided the fuel for the first nuclear powered submarine, the Nautilus, and for the world's first commercial nuclear power plant at Shippingport, PA, as noted by Bill Wilcox, our Oak Ridge City Historian and long-standing champion for preserving our history. Bill's tireless work with DOE has led to a possible solution that both preserves K-25's history and also significantly enhances Oak Ridge's potential for Heritage Tourism.

The solution was not easily arrived at nor was it simple. In fact, as much as four years ago, the Department of Energy, the Tennessee State Historic Preservation Office, the Advisory Council on Historic Preservation, the City of Oak Ridge and Oak Ridge Heritage & Preservation Association

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signed a Memorandum of Understanding outlining the steps that would be taken to preserve the rich history of the K-25 site.

While a number of things have happened that now make it impractical to carry out the MOU as it was originally written, the fundamental premises that were set forth are still valid:

Preserving K-25's history is mandatory

The Original K-25 building site should be maintained as a historical site and not encroached upon. There should be a building on the site where authentic diffusion process equipment can be displayed, and a section of the Vault walls and the historic footprint preserved for future generations to see.

As recent as a year ago, at a well attended public meeting sponsored by the Oak Ridge Site Specific Advisory Board at DOE Oak Ridge Operations' Steve McCracken's request, the vast majority present agreed that it was most desirable to preserve a portion of the K-25 building known as "the North Tower." While this was an admirable hope, it proved to be unrealistic. By last October, DOE finally and reluctantly gave up all hope of being able to preserve even a small portion of the original K-25 building. This decision was not reached hurriedly nor without considerable thought and dismay at not being able to do something all parties had agreed was desirable. Yet, ultimately, we may arrive at an even more appealing and effective alternative that could not be perceived at the time of the necessary decision.

Steve McCracken asked the community to help find alternatives to still preserve the history of K-25 without the building itself. Bill Wilcox and his Partnership for K-25 Preservation team responded right away with a new concept of a K-25 History Center that we had been developing just in case it was felt no part of the original could be saved.

Because this alternative looked attractive, at Steve McCracken's request, Bill soon after presented the proposed solution to Gerald Boyd, a leader intensely interested in preserving our history and to four members of the American Museum of Science and Energy's Foundation Board, a group also intensely interested in Heritage Tourism, and to a member of City Council. As I have said in this column before, we are truly blessed to have Gerald in the position he occupies. His and Steve McCracken's leadership are mainstays in keeping our history alive by the most feasible means.

The outgrowth of this pivotal meeting was that DOE requested that the Partnership for K-25 Preservation work closely with Bechtel Jacobs Company to arrive at a more detailed plan with cost estimates of this seemingly viable alternative by March 2009...which is now here! Bill Wilcox states, "Those studies are now being finalized for presentation to DOE. The plan for preservation provides four elements:

- Saving and marking the outline of the historic "U" building footprint
- Saving 200 feet of the Actual "U" building basement walls for use as memorials
- Adding a new building – The K-25 History Center – to stand at the open end of the "U" next to the city's K-25 Fire Station
- Adding historic markers to tell the history of important parts of the site (Powerhouse, S-50, Happy Valley, The Cold War buildings, the Wheat Community and the African Burial Ground)"

The History Center will feature four primary and pivotal roles of the K-25 site story.

First, the World War II story whereby scientists after five years of research produced the world's first porous material precisely designed to enrich uranium 235 using gaseous diffusion. This unique material is code-named "barrier." And then how this gigantic process building, which enclosed over 44 acres, served to shorten the war.

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Second, the Cold War story of how major improvements were made in the technology and applied in not only the additional buildings at K-25, but also in Ohio and Kentucky plants. These gaseous diffusion plants produced over 7,000 times as much enriched uranium as was produced during World War II.

Third, the peacetime story of producing nuclear power reactor fuel (3 – 5% enriched uranium) that is used by electrical power generating reactors all over the world. Without that fuel, the world would be even more dependent on other more scarce fuel supplies.

Forth, the story of how K-25 scientists and engineers in 25 years (1960 – 1985) led the United States development of a commercially competitive gas centrifuge that is the base from which the advanced machines of today have been developed for the plant in Ohio.

The History Center at the K-25 site is the right place to tell these stories. Heritage tourists want to go where the history was made. Experience in the growing Heritage Tourism industry has found that history is better received and understood when it is interpreted where it actually took place, if at all possible.

For example, the Graphite Reactor is the only place to effectively tell that story (seeing it is essential) and when it could be done, the public happily drove there to see it. It is hoped that one day that may again be possible, just as one day I hope the Y-12 Beta 3 Calutrons and the Building 9731 Alpha Calutron magnets (last ones in the world!) may be routinely viewed by the public (again seeing is essential). The Hanford “B” Reactor is another example and there are others.

The Heritage Center is aptly named. The Community Reuse Organization of East Tennessee foresaw the need to include “heritage” in the name for the technology park there. The K-25 History Center stories will attract visitors to see the heritage as will the planned Southern Appalachian Railroad Museum and other heritage areas of the Wheat Community, Happy Valley, S-50 and the large and certainly poignant African Burial Ground.

The K-25 History Center and the historic 44-acre footprint can be the centerpiece of a Heritage Tourism attraction in another part of our city, giving visitors yet another reason to come to Oak Ridge. Having this major attraction destination so near I-40 (just a mere five miles) and on the west end (certainly under developed at present) can entice tourists to spend the night in order to see all Oak Ridge has to offer.

Having a fully functional and staffed History Center at K-25 will, in the opinion of the AMSE Foundation leadership, contribute to the growth in attendance at the American Museum of Science and Energy. This option being considered by DOE will enhance Oak Ridge’s potential for Heritage Tourism. It will add yet another strong element to the overall team working together to promote Heritage Tourism as a viable economic development strategy as stipulated in the President’s Executive Order 13287 and strongly desired by our local DOE managers and others.

In 1990, the American Nuclear Society awarded K-25 their distinction as a National Historic Nuclear Landmark. Providing the K-25 History Center and its 65-foot viewing tower, preserving the marked footprint and short length of mural walls, and historic markers for the whole East Tennessee Technology Park is the right and best way to replace the 2005 Memorandum of Understanding.

The teamwork that has brought us to this point is unparalleled. The consensus among the primary decision makers and key stakeholders will result in a revised path forward and renewed spirit of possibility to take Oak Ridge to the next level of economic development through Heritage

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Tourism. This is just the type of situation envisioned by those of us who know and appreciate the department's leadership here in Oak Ridge. Who else would have worked so long and so diligently to do what is best for coming generations? My hat is off to Steve McCracken and Gerald Boyd and my gratitude goes to ORHPA's Bill Wilcox and the rest of his Partnership for K-25 Preservation team for all their continuing hard work.

Oak Ridge is positioned quite well among our peers regarding Heritage Tourism. We will do even better with the additional of a History Center at the K-25 site.

As a side note, in my research into what is happening at other DOE sites, I have sent copies of the *Secret City: The Oak Ridge Story* DVD's to all of them. Without exception, they have all expressed envy for the quality of that work by Keith McDaniel's Secret City Films. They have apologetically sent me videos made at the various sites and I agree, none of them hold a candle to our historical documentary films.

Finally, let me tell you a bit about my personal involvement and perspective on Heritage Tourism in Oak Ridge. Being a member of both the AMSE Foundation and ORHPA's PKP working group has allowed me to see this issue of the K-25 History Center as part of a larger overall picture.

While it has been a lot of work with regular and long meetings, I am proud to have been a part of the PKP working group for the past two years or so. We have literally gone through so many options that we were up to Option "K" by the time we arrived at what I think is something that DOE can do and will really add to our potential for Heritage Tourism, not only in Oak Ridge, but in the region as well.

As you may well realize, I believe we not only need to do this NOW, I believe we need to increase the level of partnership with DOE to do significantly more in support of Heritage Tourism as an economic development tool for Oak Ridge!



The proposed plan shows the preserved and marked site of the "U" with its K-25 History Center at the lower left. The white building in the center is being used for other work and will remain for maybe a decade.

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One of the features of the K-25 History Center will be a 100-foot long “Diffusion Plant” process “Withdrawal Alley” fitted with authentic World War II process equipment, cleaned up, perfectly safe to visit but never before seen by the public