

# Fort Knox is the nation's "Y-12" for gold

*(As published in The Oak Ridger's Historically Speaking column on October 7, 2008)*

You have often heard the saying when attempting to describe the security of Y-12 that it is "the 'Fort Knox' of uranium" or "what Fort Knox is to gold, Y-12 is to enriched uranium." That was forever reversed on Monday, September 29, 2008.

One of the most memorable remarks at the dedication of Y-12's new Highly Enriched Uranium Materials Facility (HEUMF) came from Congressman Zach Wamp's Chief of Staff, Helen Hardin, when she transposed the common saying of "Y-12 is the nation's 'Fort Knox' for uranium" into a new "Fort Knox is the nation's 'Y-12' for gold." What an appropriate analogy! Undoubtedly the most secure location in the world is right here in Oak Ridge! So, why not change the common comparative remark to reflect that fact. It seems so right!

The historic milestone reached at the Y-12 National Security Complex of completing the Highly Enriched Uranium Materials Facility, seemingly long in coming, was attended by well over 1,000 individuals. It is highly unlikely that such numbers of people will ever enter those heavily reinforced walls and walk through those huge vault doors again.

As a part of the celebration, members of the press joined with dignitaries and many local leaders who were bused to the site. Several community and business leaders were also given a Y-12 site overview tour. It was a day filled with bright sunshine coming often through small gaps in huge white clouds making the visitors glad for the shade of the tents set up just east of the HEUMF. Many Y-12 employees were there to enjoy the pride in accomplishment that all shared by the completion of this significant milestone. HEUMF is the latest and most apparent of several modernization efforts at Y-12.

The Jack Case Center and the New Hope Center are the most recent examples of modernization prior to HEUMF. Both these new facilities were occupied in July 2007. That too was an occasion for celebration at Y-12 when many members of the press and public were invited. These two facilities, patterned after the Oak Ridge National Laboratory's successful private financing venture that resulted in several new research facilities on their main campus, allowed Y-12 to successfully occupy a huge new office building and a spacious and welcoming new public interface building.

For the past several years Y-12 has been demolishing old World War II vintage wooden and block structures. Over one million square feet of floor space has been demolished and close to 300 buildings taken down using the funding provided for reducing square footage across the nation's nuclear weapons complex. Y-12 has led the way in this area as well.

While these buildings are being demolished, the importance of assuring the unique and important history of the Manhattan Project and Cold War heritage of Y-12, becomes even more urgent. Remember that the enriched uranium for Little Boy, first atomic bomb used in warfare, was separated in Y-12's calutrons. Remember also that the pace of production set by Y-12 during the 1980's succeeded in destroying the Soviet Union's economic system because they attempted to build as many nuclear weapons as Y-12 could produce.

These facts as well as other valiant efforts such as the separation of the world's first stable isotopes that were the genesis of the medical isotope program, the manufacturing of the highly specialized Moon Box, the fabrication of the enormous Sea Wolf propulsor when no one else could do it, the "hospital in a box" and other such significant achievements all took place in these World War II structures. This historic legacy of Y-12's heritage is an important element of Oak Ridge history as must be kept for future generations.

For many years, Y-12 has been the storehouse of the nation's weapons grade enriched uranium. All the nation's nuclear weapons have components manufactured here at Y-12. When the weapons are dismantled, the enriched uranium is again stored at Y-12. The 150 acres that comprises Y-12's Protected Area contains all that material for safekeeping. Soon the weapons grade enriched uranium will be relocated to the HEUMF.

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The HEUMF strongly resembles a fortress. Those who were able to tour the facility as part of the dedication ceremony could not help but note the similarity. The thick walls, sloping exterior and the security towers at each corner remind the viewer of medieval forts. Although the fresh white paint gives the building a somewhat modern look, when the building is first seen from Bear Creek Road, the first impression is of a fort.

The HEUMF is an example of Y-12's mission that continues a series of necessary changes over the years to accomplish the nation's nuclear weapons stockpile support. The historic electromagnetic separation mission that was the original reason Y-12 was built left eight large concrete buildings empty when the calutrons were removed after World War II.

These buildings have been modified numerous times over the years to meet the changing demands placed on Y-12. Those buildings along with many others at Y-12 have seen technology improvements, measuring capabilities increase, machining capabilities that are world class and experiments in energy and biology research that have astounded the world. Oak Ridge continues to be the place where world changing advances in science are routinely being made.

The visitors who were privileged to see inside HEUMF got a glimpse of the future in enriched uranium storage. This new and unique structure assures the nation's supply of nuclear material, that terrorists would dearly love to get their hands on, is never accessible by anyone who would do us harm.

Some of the unusual features of the building include: 5,800 tons of rebar, 400 tons of steel and 91,000 cubic yard of concrete. The massive fort-like steel reinforced concrete warehouse may seem smaller than it actually is as there are no windows to give the eye a size comparison...only gun ports are visible.

However, the Security Police Officers who are assigned duty there can see in all directions and are well prepared to accomplish their mission of protecting the nation's supply of enriched uranium. The HEUMF is designed for just that purpose.

Oak Ridge continues to set world records and to lead in technological advances. The world benefits from the discoveries and innovations of Oak Ridge. For example, when the HEUMF design was first being considered for construction, the contractor was pressed to locate anyone with any experience building nuclear facilities. We had not done so in many years, so much of the expertise had long since been lost.

Now, with the potential for 41 new nuclear reactors being licensed and built in the United States, that technical knowledge required for construction of nuclear facilities has been somewhat rebuilt. This resulted because of the training and qualification of workers required to meet Y-12's need for a unique special nuclear facility.

It was good to see members of the press and key community leaders to be able to visit HEUMF and for just a short time to celebrate success with Y-12. However, that may well be the last time such an event can be accommodated at HEUMF. Now the facility must begin its destined mission, that of safe storage of nuclear material and the exclusion of entry by other than those with official business there.

This unique opportunity for the 1,000 plus visitors was truly a once in a lifetime opportunity to see inside the heart of the most secure location in the world!

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Oak Ridge Mayor Tom Beehan and Roane County Executive Mike Farmer picking up “bolts” from the dedication ceremony with Atomic Trades and Labor Council President Gary Whitley and National Nuclear Security Administration’s Y-12 Site Office Public Affairs Officer Steve Wyatt partially hidden. – Photo by Brett Pate, Y-12 Photographer



US Congressman Zach Wamp’s Chief of Staff Helen Hardin speaks to the 1,000 plus people who toured Y-12’s Highly Enriched Uranium Materials Facility and tells them that the new standard for security is Y-12 instead of Fort Knox. – Photo by Brett Pate, Y-12 Photographer