

**Secretary Chu, HEUMF and Dr. Chris Keim**

**Or: History continues with Highly Enriched Uranium facility (title as it appeared in *The Oak Ridger*)**

Y-12's Highly Enriched Uranium Materials Facility was again featured as our latest achievement and well over 1,000 people attended the dedication on March 22, 2010. It was a grand occasion and in spite of the cold weather, one that was seemingly enjoyed by all who were there.

In attendance at the dedication were the Department of Energy's Secretary of Energy, Steven Chu, the National Nuclear Security Administration's Administrator, Tom D'Agostino, long time supporter of Y-12, Congressman Zach Wamp and also Congressman Lincoln Davis. Congressman Davis has ably taken up the banner to support Y-12 as Zach is set to leave congress.

These distinguished guests in addition to other key individuals in our community, made for an excellent day at Y-12. A day that will remain a milestone in the modernization of the Y-12 National Security Complex!

In addition to dedicating the HEUMF, it was certainly refreshing to hear the strong support from Secretary Chu for the Uranium Processing Facility. He stated, "It's time to build a new Uranium Processing Facility," and indicated he was talking about funding both the design and construction of this next major endeavor in Y-12's move toward the future.

UPF will be similar in appearance to HEUMF and will be located just west of it. It will also be quite a bit larger. It will contain a number of special processing facilities on multiple floors. The complexity of the construction will be significantly more complicated and the cost will be higher. However, it will replace Y-12's current enriched uranium production facilities, some of which date back to the earliest days of the Cold War.

As is usual with such events where we at Y-12 attempt to do something that may well be common place to Dollywood or Disney World, move a large number of individuals quickly, to us it is not common place. We might not have done all the logistics as smoothly as a tourist attraction, but we are getting better and the visitors seemed to understand and take any minor delays in stride.

They certainly got to see Y-12 in a manner none of them had likely ever seen before, well except for the Y-12 retirees who were among the welcome visitors. I dare say even those "old hands" were amazed at the transitions taking place at Y-12.

Such changes as the 275 buildings that have been removed leaving many "slabs," the new construction of the Jack Case Center, the two towering water tanks, and I am sure they must think we found a great deal on concertina or razor wire (so named because it is formed in large coils which can be expanded like a concertina) and bought the world's supply. It is prominently used in the physical security barriers that isolate the Protected Area of Y-12.

As we loaded the buses at the New Hope Center, such innovations as the use of metal detectors that we could allow people to walk through versus having to hand wand everyone helped. So did the new approach to checking for explosives, rather than having a dog do the checking individually, the visitors just walked through a booth that accomplished the task easily and quickly.

We had a large number of buses required to move people quickly through the winding route required to get from the New Hope Center through the western portion of the site. As each passed by the building that up until now was used to store much of the highly enriched uranium with its added physical protection of large containers surrounding it and special entry and exit gates, I am sure the contrast between that building and HEUMF had to be readily apparent to all.

Imagine my joy when Secretary Chu began his keynote speech with a story from the Smithsonian Video History Program about E. O. Lawrence coming to Y-12's Building 9731 in the very early days of Y-12.

This same story had been published on November 1, 2007, in the Y-12 History column, ***Y-12 – Oak Ridge Treasure, National Resource!***

Here it is in full:

“Another story, also told by Keim [Dr. Chris Keim], is about a visit from E. O. Lawrence late one night. The operation was running smoothly collecting uranium 235 without any interruptions or sparking. Lawrence came in and said, “Is this the best that will do?”

Keim said, “He sat down at the controls and started adjusting the voltage and the temperature to get more uranium out of the sending unit. He increased the production tremendously, but at the same time, a lot of fireworks were going on inside the vacuum chamber.

Keim continued, “Things settled down and he got up from his seat and said, ‘See? We want to get all we can out of this production, and this is the way you do it.’ And he walked out of the building.”

Then Keim said, “In about five minutes, everything literally blew up inside the tank. The insulators were destroyed. Everything went bad, but he had proved a point. We were taking it easy on ourselves, because we knew if we increased that too much, the experiment would break down and we’d have to pull out the unit and put in new, and that was rather monotonous and tedious. So we kept them running as long as we could. But his idea, and he was right, is to continue to try and get the maximum production. So we changed our whole attitude after that!”

I hasten to add that Chris Keim was also the person who first separated materials other than uranium in a calutron in Building 9731. That was, in fact, the birth of our medical isotope program that has been used in medical research, diagnostics and treatment. We are working to make that historic building more available for tours in the near future.

Well, another celebration is behind us, history has again been made and documented through excellent media coverage and attendance by local and national supporters of Y-12. It is good to see the future unfold as Y-12 continues to modernize itself for future missions related to uranium processing and storage.

Secretary Chu’s remarks regarding Y-12 included our continuing role to help “reverse the decline” of the nation’s nuclear infrastructure and continue to support the weapons program as well as the world’s non-proliferation efforts. This properly placed Y-12 among the elite and unique facilities capable of helping the world move forward toward further reducing nuclear weapons and increasing the use of nuclear energy.

He called for a resurgence of nuclear power and noted that the Obama administration is providing approval of loan guarantees to support construction of the first new nuclear power plant in decades. If the United States follows Senator Lamar Alexander’s call for a “Manhattan Project” type effort to build 100 nuclear power plants in the next 20 years, and if we choose to down blend a significant portion of the highly enriched uranium stored in HEUMF at Y-12, there are sufficient energy resources there that might be made available to provide for the nation’s energy needs for what has been estimated to well exceed 1,000 years!