

Lion Television films at Oak Ridge

Several weeks ago an interesting e-mail came to me from ORNL's Public Relations office. The e-mail had a patent application drawing attached and asked if I knew anything about the apparatus being depicted in the drawing. I did not, but from the description of the patent application and some of the components shown in the drawing, I thought it might have something to do with the calutrons at Y-12.

The cover e-mail from an associate producer of the Public Broadcasting System's History Detectives program had identified the patent as being applied for by two individuals who were working at Y-12 at the time of the submittal. That was in 1946. The patent was not granted until 1958.

I contacted Scott Aaron who immediately identified the patent as an automated control device that was designed to control the beam current in a calutron. Much the same way as the Calutron Girls adjustments would have done. The large number of calutrons at Y-12 (1,152) meant this approach would have been a cost savings, however, at about the time this patent idea was submitted, the calutrons at Y-12 were shut down and most removed. The uranium 235 began to be obtained wholly from the gaseous diffusion process at K-25.

K-25's process operated as a continuous process only requiring around 3,000 people to operate it rather than the 22,000 required to operate Y-12's batch process of all those calutrons. The cost to operate K-25 was less than 1/10 the cost to operate Y-12. So, the calutrons at Y-12 were shut down and all the enriched uranium in the nation's nuclear weapons today came from the K-25 gaseous diffusion process.

Y-12's calutrons were all removed except for those in Beta 3 and Building 9731. Therefore, the patent apparatus was never implemented.

Yet, the associate producer from Lion Television in New York City continued to pursue the idea. She asked for records to show that the two individuals who applied for the patent actually worked at Y-12. She pitched the mystery of what came to be Oak Ridge and all the secrecy surrounding the Manhattan Project to her management. They evidently liked the idea, because even though they knew the patent was never implemented, they still wanted to do the story in Oak Ridge.

So, arrangements began to be made to allow them to film at various locations in Oak Ridge. Nicky Reynolds got involved and took the lead to coordinate the locations. Bill Wilcox was already involved as I had sent him the patent application e-mail and introduced him to members of the Lion Television staff by e-mail and phone. He was answering their questions right along and building rapport with the producer.

I think Bill was one of the main attractions that caused them to want to film the story in Oak Ridge. I had sent them copies of the Keith McDaniel documentary film, *Secret City: The Oak Ridge Story*. You will recall that Bill is a main character in that film and that his is quite animated in his story telling. I think they wanted that on their film.

When the crew arrived in Oak Ridge, they first wanted to scout the locations. They looked at the Guard House on Scarboro Road, Y-12's Chestnut Ridge overlook, the Graphite Reactor, the American Museum of Science and Energy, Bill's house and the Soup Kitchen. They used them all in the film.

At Y-12, the weather was dismal and they had to use the shelter on Chestnut Ridge just to stay dry. Bill Wilburn helped Ellen Boatner with this segment of the filming. His job was to be sure that Bill Wilcox did not get too cold and wet. So, the Bill's stayed in the car as much as possible only getting out when the equipment was all set up and shoot was ready to begin.

Joe Tracy was interviewed at the Graphite Reactor at ORNL. Joe had actually known one of the individuals who had applied for the patent and was able to tell what that person's role was with the calutrons at Y-12.

At the American Museum of Science and Energy, Bill Wilcox demonstrated how a calutron worked and what the patented idea was intended to do. The museum staff kept the museum open after hours to accommodate the filming.

At the Soup Kitchen, the filming was quite an attraction for the customers. At Bill and Jeanie Wilcox's home, the Christmas decorations all had to be removed as the show will air in June 2009. The film crew enjoyed their time in Oak Ridge, spoke highly of the hospitality of everyone and generally left with a great impression of Oak Ridge.

The History Detective program is shown every other week on Knoxville's PBS Channel 2 and is a popular program with a broad audience base. Heritage tourism and history related mysteries are attractions to many and this program caters to that audience.

It is good that Oak Ridge has the ability to share our heritage when such opportunities arise as did this episode that was filmed here. A national audience will get a glimpse of Oak Ridge, the Secret City in June 2009.