

Little known heroes of the nuclear age

The story of S-50, the thermal diffusion plant located adjacent to the world's largest steam powered electrical generating plant at the time, is often overlooked in the history of Oak Ridge. Many fail to realize the contribution of S-50. This plant fed slightly enriched uranium into the K-25 gaseous diffusion process and ultimately the Y-12 Beta calutrons, shortening the war by approximately three weeks.

There were three well-known sites in Oak Ridge, the Y-12 electromagnetic separation plant, the K-25 gaseous diffusion plant and X-10, the Graphite Reactor. S-50 was actually located at the K-25 site.

S-50 had an auspicious beginning on June 18, 1944, as the story goes, when General Leslie R. Groves informed the contractor, H. K. Ferguson, they had 90 days to build the plant. On September 16, 1944, operations began, and by January 1945, S-50 was producing slightly enriched uranium by the thermal diffusion process and reached full production by March 15, 1945.

In April 1945, the thermal diffusion output was being fed into the K-25 gaseous diffusion process, which in turn had its output fed into the Y-12 Beta calutrons. Thus, all Oak Ridge uranium enrichment facilities were operating full bore (except the Alpha calutrons at Y-12, which had been shut down when the thermal and gaseous diffusion methods began to out-produce them).

However, before reaching the point where this successful combination of all available uranium enrichment resources could be used to shorten the awful war through the use of Little Boy, the world's first atomic bomb ever used in warfare, what may well have been one of the worst accidents of the Manhattan Project occurred. Five men were injured and two of them died as they experimented with thermal diffusion being conducted in the Navy Yard in South Philadelphia, Pennsylvania.

In Oak Ridge in late August 1944, ten enlisted men in the Special Engineer Detachment were assembled to meet with James Conant. Lt. Col. Mark C. Fox met with them.

The men were told very little about a special job they were being asked to volunteer to do. They were told the job would be very dangerous and that it would involve testing a new and untried process. They were assured that the work was needed to help win the war. They were told that any soldier who did not wish to volunteer could leave the room. None did. The ten were sent to the Philadelphia Navy Yard.

Among the volunteers was Arnold Kramish, then a private in the SED (Special Engineer Detachment), who was injured in an accident within a week, on September 2, 1944, when uranium hexafluoride gas was accidentally released. His two co-workers, Peter Newport Bragg, Jr. and Douglas Paul Meigs, chemists, were killed. David Mabury reported on this story in *The ArkansasTimes* on May 6, 1993 when Bragg was finally honored with the Meritorious Civilian Award, the highest award a Navy installation commander can give to a civilian.

Mabury's article contained the following description of the accident, "A cylinder of uranium hexafluoride gas exploded, rupturing nearby steam pipes. The gas and steam combined to form hydrofluoric acid. The two chemists and Kramish were bathed in a scalding, radioactive, acidic cloud of gas."

The article continued, "Kramish's corneas were etched by the acid (his vision returned a week later). Bragg and Meigs, closest to the explosion, received third-degree burns over their entire bodies. Two soldiers just outside the room, Pvt. John E. Tompkins and Pvt. John Hoffman, both Special Engineer Detachment soldiers, were also critically injured. Hoffman dragged the victims outside."

Finally, the article concluded, "For his heroism, Hoffman was awarded the Soldiers Medal, the Army's highest non-combat award. Because the Manhattan Project was top secret, he could not tell anyone about his citation until 1946. The three men he dragged out of the deadly gas cloud received no awards. Kramish did not even get a pension. It was high time the Navy recognized Peter Bragg and Douglas Meigs for their sacrifice, Kramish and Bragg (Peter's brother) agreed."

So, after being contacted by Arnold Kramish, Braxton Bragg (Peter's brother) set about trying to get proper recognition for his brother's death while involved in the secret Manhattan Project. Bragg began writing letters to elected officials. Kramish wrote a letter to Vice President George H. Bush who was shot down in the Pacific on the exact same day as the uranium hexafluoride accident in Philadelphia.

They did not receive any encouragement from the letter writing effort. Kramish decided, when Vice President Bush stated in a speech that he was grateful for the atomic bomb as it kept him from being involved in an invasion of Japan, to write an op/ed article for the Washington Post, on December 15, 1991, telling the story.

Through connections in Arkansas the article reached Dave Edmark, managing editor of the Springdale Morning News, who assigned it to Mark Minton. Minton wrote, in January 1993, "An Unknown Arkansas Hero."

The Navy responded and presented the Meritorious Civilian Award to Braxton and John Bragg (Peter's brothers) on June 12, 1993. Finally after much work, the recognition of Peter Bragg's contribution to the Manhattan Project had been provided.

Both of Peter's parents had passed away by the time of the award, but there was still a box known to Gladys Bragg as her "grief box" that she had kept for nearly 50 years until her death. It contained the memories of her oldest son who died at age 24. There were his personal effects, papers, newspaper clippings – all relics of his short life and untimely death. Braxton Bragg now had charge of the box with its one additional item.

Sadly, no one has fought the battles necessary to obtain recognition for Douglas P. Meigs.