The Clinton Laboratory begins to expand to Y-12 Buildings

Last week we had begun a lengthy quote from *The New World* by Richard G. Hewlett and Oscar E. Anderson. This week we will continue to quote from that most informative volume as we move through the year of 1946 culminating in the transfer of responsibility from the Army to the Atomic Energy Commission on January 1, 1947.

We will also briefly examine the beginnings of the national laboratories and learn a bit about the transition of the Clinton Laboratories into the Oak Ridge National Laboratory. All the while, Y-12 was right in the middle of much of the discussion about changes and potential new work for the large industrial site that no longer had a major mission.

Continuing the quote, "As a start, the Advisory Committee proposed establishing two laboratories – one at Argonne and another somewhere in the northeastern states. Since the preceding November (1945), a regional study group had been at work on a co-operative plan to utilize the Argonne facilities."

"The Manhattan District should invite interested institution to set up a board of directors and see a satisfactory contract with the University of Chicago for administering Argonne. The northeastern project, not so far advanced, needed preliminary planning and organizing."

"The Advisory Committee also looked favorably on a national laboratory in the West, but it judged that Groves should take no action until prospective participants there submitted a definite joint proposal."

There was also discussion in 1946 about the need for additional reactors. The Graphite Reactor at the Clinton Laboratory, whose mission to create the world's first industrial size nuclear reactor had now been passed to the Hanford reactors. These reactors produced the plutonium for Fat Man. So the Graphite Reactor had been converted to the peacetime production of radioisotopes.

On the American Chemical Society's web site Judah Ginsberg states, "On June 14, 1946, the laboratory published in Science magazine a catalogue of reactor-produced isotopes that Clinton could prepare and distribute for scientific and medical uses. The list included almost twenty fission-produced isotopes and about sixty non-fission products available to qualified researchers."

Ginsberg goes on to say, "On August 2 [1946] Eugene Wigner, standing in front of the Graphite Reactor, presented a small container of carbon-14 to the director of the Barnard Free Skin and Cancer Hospital of St. Louis. That presentation marked the beginning of the peacetime uses of atomic energy."

The Advisory Committee, that Colonel Nichols had recommended General Groves establish to recommend future directions, endorsed the distribution of radioisotopes at cost. This was the beginning of financial support and sustained support for the radioisotope program that continues at ORNL today.

The Oak Ridge National Laboratory was designated a National Historic Chemical Landmark by the American Chemical Society in a special ceremony on March 6, 2008. The Graphite Reactor, located at ORNL, had already been designated a National Historic Landmark by the National Registry of Historic Places on September 13, 1966.

Initially known as the Clinton Laboratories, over the years several names have been applied, but the Oak Ridge National Laboratory is the name that has come to represent the best in class in most every area of scientific research and development pursued here. In early 1947, the name was changed to the Clinton National Laboratory. The name Oak Ridge National Laboratory was first applied on February 1, 1948.

A curve was thrown the laboratory regarding its name in late 1974. Congress unexpectedly changed ORNL's name to the Holifield National Laboratory. This was done in honor of a retiring California congressman who had been prominent in atomic energy matters and without consulting anyone in Oak Ridge.

There was a groundswell of concern expressed at the loss of the name Oak Ridge National Laboratory. The result of all this was the restoration of the chosen name by congressional action in late 1975. The Holifield Radioactive Ion Beam Facility now located at the Oak Ridge National Laboratory was named in honor of the retired congressman.

The Graphite Reactor's official first mission to prove the principle of generating plutonium through a uranium reactor of industrial size was completed in December 1944. The pilot plant for the chemical separation of plutonium was placed in standby in January 1945. The Graphite Reactor had produced a little over 326 grams of plutonium.

The major production of plutonium for the Trinity test and Fat Man was produced in the reactors at Hanford, Washington. Only enough material had been provided for these two explosions. After the war ended, uranium was being produced in Oak Ridge at a greater pace than plutonium was being produced at Hanford.

The Graphite Reactor then began to be used to produce radioisotopes for research and development. Other specialized radioactive materials were produced as well.

On June 30, 1945, the University of Chicago, having accomplished the original intended purpose of proving the principle that plutonium could be created in the "semi-works" of the Graphite Reactor, relinquished their responsibility for the Clinton Laboratories.

However, there was still a lot of work to be done and on July 1, 1945, the Monsanto Chemical Company took over operational responsibilities for the Clinton Laboratories. During this time, the scope of work was expanding as scientists continued to explore the new and challenging opportunities with various applied research and development activities and exotic materials.

It was during this time (1946 – 1947) and because of the expanding efforts of the laboratory that buildings becoming available at Y-12 began to be occupied by the laboratory personnel for research work. Y-12 was closing down large buildings and putting them in standby. This was a great opportunity for the laboratory functions as they were not allowed to build any new buildings at the X-10 site.

Next week we will continue to explore the many transitions of the 1946 -1947 era.