

Kentucky newspaper's 1949 look at city, part 3

Monument to Schizophrenia: Oak Ridge, A City of Death, Seeks A 'Normal' Civic Life, part 3
(As published in *The Oak Ridger's Historically Speaking* column on April 13, 2015)

Here is the third installment of the series of articles Sam Adkins, staff writer for the Louisville, Ky., daily newspaper, The Courier-Journal, wrote about Oak Ridge. The first article in the series was published on Aug. 14, 1949, the fourth anniversary of the surrender of Japan and we broke it into two columns for this series.

The editor of The Courier-Journal has given permission for Adkins' series of articles to be reprinted in part here. I think you will appreciate seeing the view of Oak Ridge history from the perception of a reporter looking at us from one state away. Remember, this is 1949!

...

Sam Adkins introduces this installment with, "This is the second of a series of three articles on Oak Ridge, the atomic-energy plants there and the nuclear-physics research in the fields of medicine, agriculture and industry."

Reprinted with permission: Oak Ridge, Tenn. – Fantastic is the word for the record-time, war-hurried atomic-energy installations in the section officially known as the Oak Ridge Area.

Most of the details of this fabulous project at last are beginning to come out. They easily could fill a fascinating book; but there's no space for most of the story here. So, as briefly as possible, here is what the Oak Ridge reservation, exclusive of the city, consists of.

Gaseous Diffusion Plant

(The purpose and processes of this plant will be discussed in another section of the report next Sunday.) To begin with, this plant, 13 miles southwest of Oak Ridge is the largest continuous-operation factory in the world. Each side of the huge, H-shaped structure is 2,450 feet long, and it averages 400 feet in width and 80 feet in height. It covers 44 acres.

Nearby is a second gaseous-diffusion building about a fourth as large as the main factory; and the plant area contains 70 additional building, the structures altogether covering 500 acres.

Construction began on September 10, 1943, and the first U-235 was produced February 20, 1945. It took 25,000 men to complete the buildings, and the peak operating force was 12,000. On March 15 of this year, employment had leveled off at about 4,500.

This one plant alone cost \$530,000,000. It required 330,000 cubic yards of concrete, 40,000 tons of structural steel, 15,000 tons of sheet steel and 5,000,000 bricks. Millions of feet (the total is a secret) of copper tubing were installed. It was necessary to perfect 14 completely new welding techniques to meet hitherto unheard-of demands for tightness and cleanliness. It has been estimated that time spent in research, designing and development of pumps alone totaled 350,000 man-hours.

This plant was designed by the Kellogg Corporation, Chief construction contractor was the J. A. Jones Construction Company of Charlotte, N. C.

Electromagnetic Plant

Near the center of the Oak Ridge Area and about three miles from the town of Oak Ridge, the electromagnetic plant merits just about as many superlatives as the gaseous diffusion plant. It cost more than \$400,000,000, consists of 170 buildings with a total floor space of 4,500,000 square feet. It covers approximately 500 acres.

The electromagnetic plant was designed and built by the Stone & Webster Engineering Corporation of Boston in co-operation with technical experts from the University of California (Dr. E. O. Lawrence of that

Kentucky newspaper's 1949 look at city, part 3

Monument to Schizophrenia: Oak Ridge, A City of Death, Seeks A 'Normal' Civic Life, part 3
(As published in *The Oak Ridger's Historically Speaking* column on April 13, 2015)

school developed the electromagnetic process for separating U-235 from uranium). It was operated originally by the Tennessee Eastman Corporation, but has been taken over by the Carbide and Carbon Chemicals Corporation, which now manages most of the Oak Ridge installations.

At one time, 13,200 men worked on construction of this plant. Peak operational personnel, in 1945, was 22,000. It's down to approximately 2,000 now, since the plant is on a stand-by basis.

The designing and building of the electromagnetic plant involved problems never before encountered – it is the first and only one of its type in the world.

General Electric, Westinghouse and Allis-Chalmers designed and built the equipment.

Pumping equipment was developed to produce a vacuum of 30,000,000 times greater than those used in ordinary power-plant practice. Magnets were developed which contained thousands of tons of steel each – all nearly 100 times as large as any magnets ever built before. They are 230 feet long and are so powerful that their pull on the nails in a pair of shoes makes walking difficult. At first, it snatched wrenches from workmen's hands. Complete kits of nonmagnetic tools had to be produced.

An accident of the times caused the building of this plant to put the Manhattan Project (and now the Atomic Energy Commission) into a peculiar business – guardian of a great deal of the Government's silver. Copper was scarce and time was more precious than any precious metal. So 14,700 tons of silver valued at \$400,000,000 was borrowed from the U. S. Treasury to serve in conductors. If this loan had not been made, the plant would have cost at least \$800,000,000.

Approximately 5,200,000 linear feet of piping was required for the plant – including water lines, oil lines and vacuum piping. About 250,000 valves were installed.

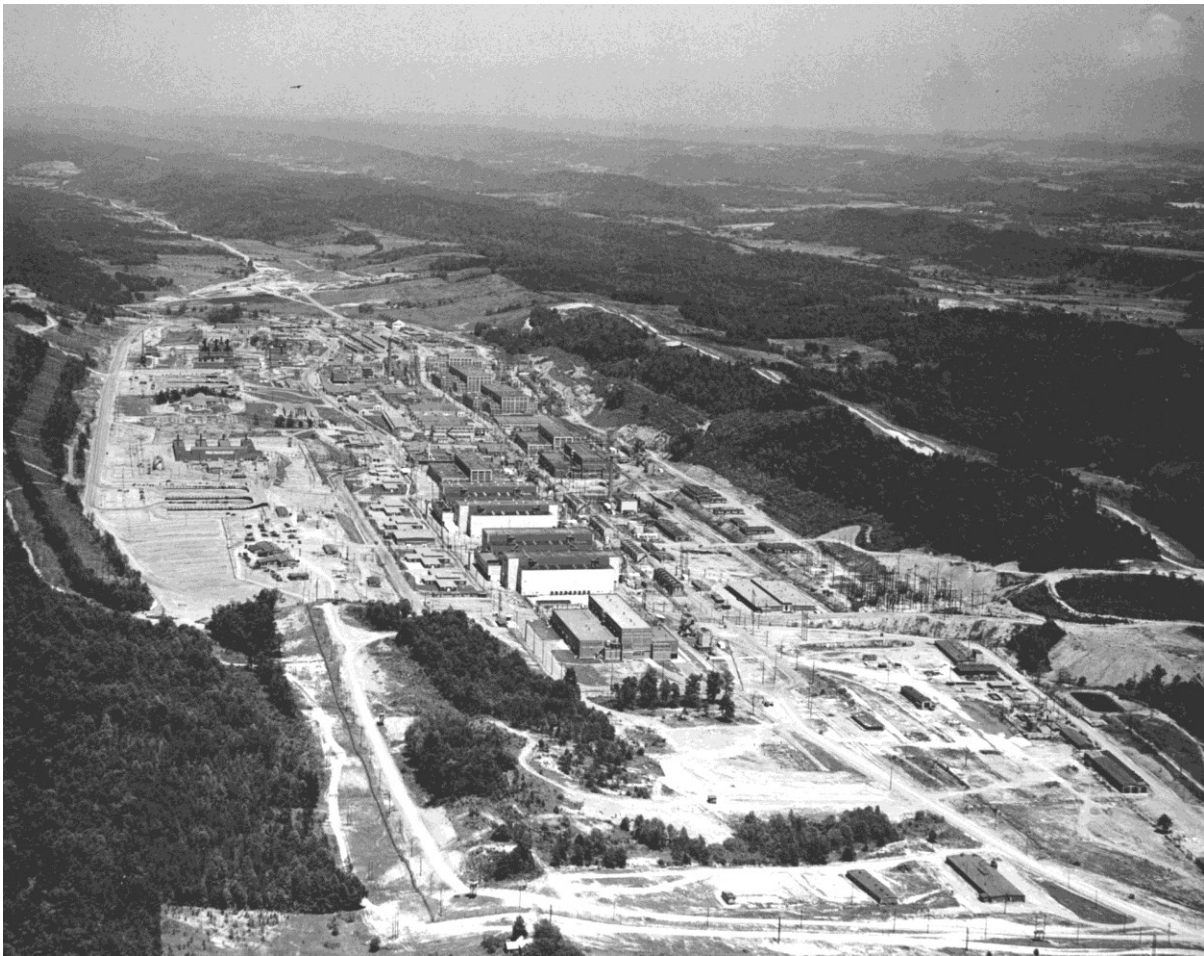
And in spite of all this, there is at least a chance that this plant may never be used again for its original purpose, since the gaseous-diffusion process is much more economical than the electromagnet process.

...

Next we will see what Sam Adkins thought of the Oak Ridge National Laboratory, the Nuclear Energy Powered Aircraft program and the Oak Ridge Institute for Nuclear Studies. He was a high school classmate with Dr. William Pollard...that may be the connection that got him interested in writing about Oak Ridge!

Kentucky newspaper's 1949 look at city, part 3

Monument to Schizophrenia: Oak Ridge, A City of Death, Seeks A 'Normal' Civic Life, part 3
(As published in *The Oak Ridger's Historically Speaking* column on April 13, 2015)



Inside the sprawling, \$400,000,000 electromagnetic plant at Oak Ridge there is another \$400,000,000 worth of silver borrowed from the Government to be used instead of copper as a conductor. It isn't being operated now. (Y-12 was, in fact, operating four calutrons and already machining uranium parts for atomic bombs and atomic tests on a small scale – Ray)

Kentucky newspaper's 1949 look at city, part 3

Monument to Schizophrenia: Oak Ridge, A City of Death, Seeks A 'Normal' Civic Life, part 3
(As published in *The Oak Ridger's Historically Speaking* column on April 13, 2015)



The 44-acre gaseous diffusion plant at Oak Ridge is the largest continuous-operation factory in the world. It cost half a billion dollars. It is here that atomic bomb material U-235 is separated from common U-238.