

Construction of Building 9201-1 (Alpha 1) – part 1

Building 9201-1 was the first building started at Y-12. Construction began on February 18, 1943, as found recorded in Hewlett and Anderson's *The New World* on page 152, and in November, 1943 the first attempt to run the calutrons installed there resulted in major difficulties. During those nine months there was a tremendous amount of effort placed toward the design, fabrication and installation of the calutrons. This operational setback was a tremendously tough blow. The construction of the building may well have been the easier part of the project.

As early as January 5, 1943, Tennessee Eastman's Vice-president and General Manager, James. C. White, accepted the assignment from General Groves to operate Y-12. White, at first told Groves that Tennessee Eastman did no fundamental research and was primarily an operating unit. Groves replied that he "was not looking for 'long beards' and that he had so many Ph.D.'s that he could not keep track of all of them."

Groves insisted that what he needed was a company with experience in industrial production. This was a keen insight on General Groves' part as Y-12 ultimately required a workforce of over 22,000 working in three shifts around the clock.

Also in January, 1943, General Groves set the first operational milestone schedule for Y-12. He insisted the first set of calutrons, evidently already being called "racetracks" because of the oval shaped design of placing the magnets, be operational by July 1, 1943.

This ambitious schedule would prove unachievable and even when the first attempt was made to bring the first calutrons on line in Building 9201-1, the effort was not successful. This was a significant setback to the project.

However, this aggressive schedule caused intense activity in a number of locations across the nation. From Berkley, where Lawrence attempted to complete the design and even built full scale Alpha units, to the various manufacturing locations for the magnet coils and other parts of the calutrons, with sketchy design drawings that were still changing. Groves had allowed six weeks from January 5, 1943 before freezing the Alpha calutron design.

In Oak Ridge, clearing the Y-12 site began on February 1, 1943. Even while Building 9201-1 was being constructed, Building 9731 was built in an amazingly short time to house the experimental Alpha (XAX) and later the Beta (XBX) units. Ground was broken for Building 9731 on April 13, 1943 and the superstructure completed in three weeks. The entire building was completed before the end of March 1943.

Well before any of the Alpha calutrons were operational, the decision to go ahead with design and construction of the Beta calutrons at Y-12 was made by General Groves on March 17, 1943 at the Stone & Webster offices in Boston. In addition to the Beta decision, the design of the first five Alpha racetracks was frozen. Lawrence was to alter this decision later for the fifth Alpha racetrack placed in Alpha 3.

Construction materials arrived at the Y-12 site in enormous quantities. Within one four-week period, sixty-three rail cars of concrete blocks were unloaded there. In eleven weeks, 1,585 rail cars of lumber arrived. General Groves in *Now it can be told* said that 128 carloads of electrical equipment arrived in a two-week period. He went on to say that warehouses had to be built to hold the items until other equipment that had to be installed first arrived.

In a matter of a few months a quiet farming community had been radically changed forever and an area that had been little known outside this small region had become the focus of a world-changing event. Although folks in Knoxville and surrounding area did not know what was going on, they sure knew something huge had to be happening. I can't imagine what must have been going through their minds.

During the height of the early construction of Y-12, Lawrence made his first visit there early in May, 1943. He had just completed visiting the manufacturing sites for the various component parts being made for

shipment to Y-12. In *The New World*, the following description is given of the impression the construction site had on Lawrence. Remember, he was the champion of electromagnetic separation, yet he was unprepared for the immense size of what he saw at Oak Ridge and the Y-12 construction site.

Lawrence is quoted as saying, "Everything before had been impressive, but this sight was awesome. He saw miles of new roads, acres of railroad track filled with trainloads of materials and equipment, rows of warehouses and barracks, and hundreds of new homes on the rolling hills. From the town, he climbed to the top of the ridge where he could look down on the Y-12 plant. He found it hard to adjust to its vast scale; the high-voltage transmission lines coming over the hill, the big switchyard with its mammoth transformers, the great expanse of excavations and building foundations.

"On that scale even the size of the racetracks, which seemed so large in comparison with laboratory equipment, was insignificant. Lawrence for once had difficulty in getting his bearings. He told his colleagues in Berkeley: '...When you see the magnitude of that operation there, it sobers you up and makes you realize that whether we want to or not, that we've got to make things go and come through. ...Just from the size of the thing, you can see that a thousand people would just be lost in this place, and we've got to make a definite attempt to just hire everybody in sight and somehow use them, because it's going to be an awful job to get those racetracks into operation on schedule. We must do it.'

Next week we will continue the timeline of early construction of Building 9201-1 and other Alpha buildings at Y-12.

Caption: Foundation being laid for calutron racetrack in Building 9201-1, first building started at Y-12