Y-12 and Smithsonian video history interview, part 2

Last week we introduced the people interviewed by Stanley Goldberg, consulting historian for the Smithsonian's National Museum of American History, who conducted interviews in Oak Ridge to capture the history of the Manhattan Project. He interviewed several individuals who had first-hand experience working on the project. The partial interview included below was conducted on March 4, 1987.

The interviewees in this segment are George Banic, Chris Keim, and Clarence Larson, all introduced in last week's article.

> Banic: …The two motor generator sets that were operating in Building 9731, the pilot plant, had been manufactured somewhere around 1903.
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> Keim: They had been used in the sugar cane…
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> Banic: Sugar cane mill or something like this, and they were available, so they were installed. We had a little difficulty with one of them. We couldn't quite reach the magnetic field we wanted in the XAX, so we found through the "used car" equipment circulars, we found one that was in the upper peninsula of Michigan. It was one that belonged to Henry Ford when they were using wood in their auto and truck bodies, and this is the lumber mill that he'd used for his automobile manufacturing. Of course, that had been shut down but Henry Ford kept it because it was his personal toy. He would go up there and play with this thing up near the Michigan College of Mines, way up in the upper peninsula, a good getaway.
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> The thing about it that was real interesting when we went up there and saw that equipment, it was just like it was new. The end bells of the rotating equipment were chrome plated, they had beautiful scroll work painted on the stationary parts, and it looked like something, I guess, that you would almost put in your museum after you decorated it real well. But, of course, Henry ford had since died and the heirs decided that it was time to dismantle the plant that they weren't interested in it. So the generators were available.
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> Keim: They kept a caretaker at those motor generators turning them over periodically so they wouldn't set, and they were most beautiful when we saw them.
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> Banic: They were quite the machines.
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> Goldberg: You needed the motor generators because…
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> Banic. I wanted to increase the capacity of the XAX machine.
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> Goldberg: Right. But you needed the motor generators initially because the current…
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> Banic: They furnished the current to excite the magnet.
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> Goldberg: That was direct current.
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> Larson: It had to be direct current.
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> Banic: It had to be direct current, that's right, because it was a DC magnet.
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> Goldberg: So the motor was an alternating current.
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> Banic: It was an alternating current motor and it had a DC generator that furnished the power to the system.
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> Goldberg: How big are these?

Banic: These were relatively small compared to the Alpha buildings. These are, say, 300–500 Kilowatts. …So when we brought this equipment – well, before we were able to get it, we requested Purchasing to buy these machines for us. They said, "The government and Carbide (Union Carbide Corporation) isn't in the process of buying junk equipment.'

I said, “That is not junk equipment.” I said, “not only that, we need it. We can have it in less than a month. We know how to install it. It comes ready to go.” Now if we placed an order for a new machine in the late forties or early fifties, I forget when it was, you had maybe a two year lead time before somebody could set up and build your machine. I said, “This is something we need right now.” So we went up and inspected it, we checked it electrically and all, and it turned out it looked like a pretty good machine and we brought it back. It served its purpose very well. In fact this is the lead-in to the silver story. When we converted from the silver coils to the copper coils for the Beta process, the copper coils required a lot more current than the existing generator would put out, because they were a different winding configuration. So here we had the machine already installed in just no time at all. We cross-connected and we were back in operation, and the Treasury Department had every bit of their silver back now.

Keim: George, I remember how those sliver coils in the pilot plant were replaced. When A. J. Mettler knocked out the ends of the building and reached in without our crane and lifted them out and then lifted the new ones back in, how did you get that motor generator into the basement of that building?

Banic: It was put in before the vacuum equipment was put in.

Keim: No, I mean the Henry Ford.

Banic: We didn’t put it in the basement; we put it in the building next door, 9736.

Keim: That’s right.

Banic: We had a special building, which was a fabrication-type building where some of these things were made and graphite pockets were made. So we installed it over there and bussed over to it. But the replacing of the coils was, as mentioned, done by knocking out the end of a building. These coils weighed in excess of 40 tons, which to pick up and move around in the air was quite a task. So Mettler had a brand-new crane which had a 120-ton capacity, and they tried it out on tour system replacing those coils.

Keim: But you know, when they were doing that, it was interesting. They’d lift those coils out, those coils weighting 40 tons or more, they’d set them on a piece of plywood, and they used Ivory Soap flakes. Then they’d use a high lift, and they pushed them along the plywood, didn’t have to lift them. I asked them, I said, “Why do you use Ivory Soap flakes?”

They said, “We’ve tried them all, and those are the only ones which work.”

Goldberg: They used it as a lubricant?

Banic: Used it as a lubricant to slide those coils out.

Keim: They were a most clever group of operators.

Now doesn’t that give you a flavor for the times? These men were engaged in first-of-its-kind work doing things that had never been done before. They were making good use of all available resources. The “CAN DO” spirit of Y-12 was apparent then and continues to exist at Y-12 even today.