

### Y-12's favorite stories, part 3

We continue to look at some favorite Y-12 stories taken from *An Overview of the History of Y-12, 1942–1992: A Chronology of Some Noteworthy Events and Memoirs*, by William J. Wilcox, Jr., published by Bill in August 2001. These are “common tales” told about incidents and events in Y-12's history.

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*Bill Wilcox recalls Military Policeman's action on Y-12's Bear Creek Road:*

“The Military Police working at the gates leading to Y-12 took their duties very seriously. One bright spring morning in 1945, I pulled up to a stop at the guard shack/gate to show my badges. The MP this morning looked at them *very* quickly, jumped on the driver's side running board of my old 1938 Chevy business coupe, and yelled ‘Go get that guy!’—pointing to a military sedan pulling out just ahead.

“Off we went, not fast enough to suit him, which he let me know in no uncertain terms as he unsnapped the holster of his .45. The holster was right by my ear, and that gun in it looked like a cannon. He leaned over and yelled to me, ‘Pull that car over!’—then growling to the world in general, ‘Some of these brass think rules aren't for them.’

As soon as I pulled over in front of the car and slowed down sufficiently—we were then well past the North Portal—he jumped off and started giving the offending, now silent captain an easily understood lecture on the rules. He made the captain and passengers take him back to the gate, I'm sure making pleasant conversation all the way while I happily went on to work”

*George Jasny recollects the 1958 Y-12 criticality accident:*

This story was told by George Jasny as he was accepting the Robert E. Wilson Award at the AIChE meeting in Boston, Massachusetts, on July 31, 1995. George's first reaction to the radiation alarm that sounded that day is an oft-told Y-12 tale, and here it is in his own words.

“It happened on June 16, 1958, at about 2:00 p.m. I was working in my office when the radiation alarm went off, a not infrequent occurrence in those days. I grabbed my portable radiation meter and headed for the hallway leading to the operating area and there met several people including Roger Hibbs, who was at that time head of Chemical Operations and later became president of the Union Carbide Nuclear Division, the major Oak Ridge contractor until 1984.

“I looked at my radiation meter and noticed that the needle was pegged all the way to the right; I then switched to the higher scale and the same thing happened. My reaction was, ‘Damn, my meter is screwed up again!’ Roger looked at his meter and his reaction was, ‘Let's get the hell out of here!’—which we did.

“I've told that story many times when introducing Roger, always concluding that that was the reason why he, and not I, became president of the Nuclear Division.”

*An insight into the way Y-12 got its job done:*

This happened during the long summer of 1958. Bill Nelms was head of Mechanical Operations up in 9212's M Wing that handled the depleted uranium (also known as Tuballoy) parts machining. There were 125 American Tracer lathes in this shop, the best you could buy, made by American Tool in Cincinnati.

These machines cut parts by following the contour of a template. The task on-hand was to explore and find out ways to significantly improve the accuracy of these already fine machines.

Ken Sommerfeld, just recently hired out of the U.S. Navy, was given one of the lathes and asked to do what he could to improve it. At the urging of Jack Case, Mechanical Division superintendent, John Strohecker from Engineering came by every day to follow up on ideas anyone had for improving performance, always asking why do this, why do that?

The best ideas everyone had for steadying the machines and improving accuracy were incorporated. For example, the machine slides were scraped to make them even smoother, the bearings were pressurized with air to “float” the machine, interferometers were used, etc.

The newest idea was to grind two as-near-perfect 1/4-inch-thick discs as possible, so as to have a more accurate template than ever before, and thus to try to separate the inaccuracies arising from the machine from those arising from the templates. Using these as templates demonstrated that one source of inaccuracy arose from difficulties in following the exact shape of the template, difficulties traced to the valve that controlled the stylus.

This was revealed by attaching an electric shaver, brought in one day from home, to the stylus’s valve. By its high-frequency vibrations, the shaver eliminated the slight sticking of the stylus so that it followed the template accurately.

A mass of data was recorded as evidence and a visit arranged to the company who supplied American Tool with this component of their machine—“True-Trace” in California. The problem there was in convincing them they could make a better valve, but the “shaver” experimental data was brought forth and convinced them. Y-12 helped make another significant improvement in American machine tool precision.

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Next we will look at more of the favorite Y-12 stories collected by Bill Wilcox in his brief history of Y-12.