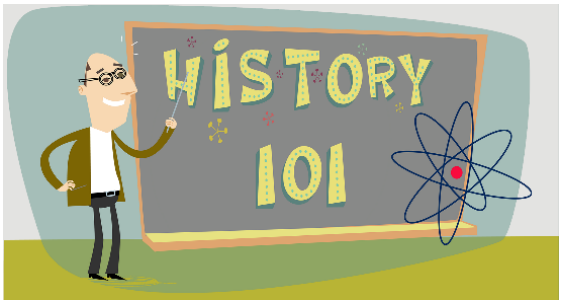
# The Mystery of the Atomic Energy Commission Trowel — Part I




"Is it radioactive?" That's not a typical question your spouse asks when you come home with your winnings from a silent auction. But Joe Ball, of West Caldwell, New Jersey, wasn't holding a set of steak knives or a reservation for a time-share in Reno. The innocuous looking mason's trowel he won had links back to the very beginning of the atomic age.

While attending his class-of-1972 reunion for the now defunct Eisenhower College in Seneca Falls, New York, old items from the college were sold to the alumni at a silent auction. Ball's trowel sat inside a well-constructed Plexiglas display case appointed with fine velvet and a handsome wooden box. A plaque claimed that the trowel was one of three copies made for Dwight Eisenhower to use on November 8, 1957, to lay the cornerstone for the new Atomic Energy Commission building in Germantown, Maryland.

The trowel's parts were full of symbolism, the plaque reported. The blade was made from uranium taken from the CP-1 reactor, which, under Fermi, achieved the world's first sustained chain reaction at the University of Chicago on December 2, 1942.

The handle was crafted from wood taken from Chicago's Stagg Field under which the reactor was built. The zirconium ferrule and stem came from the first fuel assembly of the Navy's revolutionary nuclear powered attack submarine, the Nautilus.

At some unspecified date, the AEC and Argonne National Laboratory donated the trowel to Eisenhower College, where it made its way to Ball – who won it with a $10 bid.

Many of his fellow alums were wary the trowel might be radioactive or doubted it was real. One quipped it would be hard to get the case through airport security. Ball eventually called the NRC's Office of Public Affairs to check out its safety and authenticity. He was particularly concerned about mysterious black shavings scattered about inside the display case. OPA knew I'd be interested in the historic background of the trowel, and so I got involved. First, I directed him to the New Jersey Department of Environmental Protection to have the case and shavings surveyed. They found the shavings were uranium, but detected no radiation coming from the display case.

I was intrigued. Given the trowel's use and composition, this was an extraordinary, museum-worthy find. I drove up to Joe's home, took photos, and went to work researching the trowel's history. I located one of the other trowels on display at Argonne Lab's small museum. Its plaque was virtually identical to Ball's, except that it claimed there were only two copies. The Eisenhower Library in Kansas, however, reported that it too owned a trowel from the dedication ceremony. Having three trowels made sense since Eisenhower was assisted in the ceremony by AEC Chairman Lewis Strauss and Congressman Carl Durham of North Carolina.

But not all of the details about the trowel were so easily reconciled. Uranium metal was at a premium in 1942. Why was this uranium not reused in later reactors? Why did the detailed news accounts of the ceremony make no mention of the unique features of the trowels? Eisenhower's itinerary for the

ceremony reported that the president would use a “silver-plated trowel” to lay the cornerstone. Neither Ball’s nor Argonne’s trowel was plated. Were they fakes? If so, why did the New Jersey radiation office confirm that the shavings were uranium? I realized there was a hidden story behind the one written on the plaques. Check out Part II for the rest of the story!

By Thomas Wellock, NRC Historian