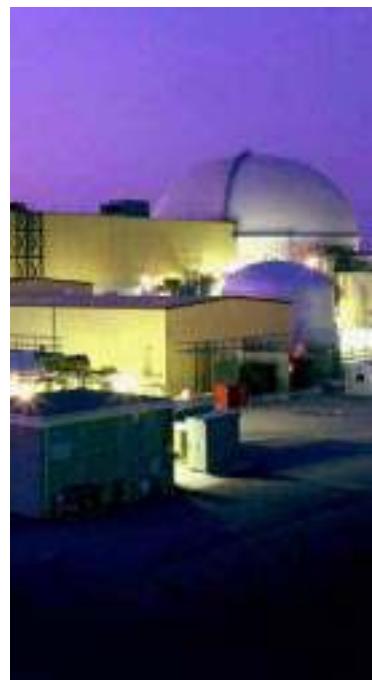


Commentary

by

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Fellow scientists Bob Schenter, left, and Glenn Seaborg

The Fast Flux Test Facility

FFTF and Seaborg: two national treasures

In writing about a truly national treasure, the Fast Flux Test Facility, I also want to tell some very related anecdotes about another national treasure, the late Professor Glenn T. Seaborg.

Both Glenn Seaborg and the FFTF have had very important connections with medical isotope production and applications — especially during the late 1990s. Seaborg was one of the co-signers of the Nuclear Medicine Research Council's letter of Nov. 27, 1997, to (then) Secretary of Energy Federico Peña. I believe the closing paragraphs of the letter express his thinking very well:

Much work remains to be done to enhance health care through nuclear medicine techniques. The medical community is doing its share, despite the shortage of existing isotope supplies for clinical trials and the uncertainties that are faced in the future supplies of isotopes for medical research and therapeutic applications. To that end, it is critically important that the Department make available its unique resources, such as the FFTF, to sustain and enhance its partnership with the nuclear medicine community — a partnership that can do so much to save lives and improve the quality of life for critically ill patients.

We strongly encourage the Department to maintain its long-term commitment to the production of medical isotopes and continue its consideration of restarting the FFTF. — (signed) Glenn T. Seaborg

Seaborg chaired the U.S. Atomic Energy Commission under Presidents Kennedy, Johnson and Nixon. More than that, he was among the founding fathers of modern nuclear medicine — the most prolific discoverer of radioisotopes that are widely used today in diagnosis and treatment. In 1951, he was awarded the Nobel Prize in chemistry for his work.

Seaborg also was chairman of the Lawrence Hall of Science (which he founded), associate director of the Lawrence Berkeley Laboratory and a professor at the University of California at Berkeley.

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FFTF can save lives

The FFTF had an excellent performance record in producing a number of medical isotopes during the late 1980s, and many words have already been written over the years about some of the very exciting applications of these isotopes. ("FFTF produces up to 60 medical isotopes," *Hanford Reach*, May 18, 1992).

One of our proudest accomplishments was being able to send FFTF-produced osmium-191 to Children's Hospital in Boston for adult and infant blood-flow studies. In evaluating heart function, doctors have had to rely on heart catheterization, a procedure with significant risk when used on a premature infant's fragile circulatory system. But researchers at Children's Hospital in Boston have found that using a radioisotope of osmium allows non-invasive imaging of the soft tissues of the heart and blood vessels. This can be done at a dramatically lower radiation dose than is possible with currently available radiopharmaceuticals.

Even when that *Hanford Reach* article was written in 1992, there was a long list of isotopes and potential applications related to brain imaging and the treatment and diagnosis of several forms of cancer, heart disease and osteoporosis. The potential medical applications have more than doubled since then.

Seaborg, FFTF linked

Seaborg's most important discovery was probably technetium-99m. In his words, "My role in the discovery of technetium-99m and cesium-137 involved collaboration with other colleagues, Emilio Segre and Margaret Melhase. At the time, we had no expectations concerning the work's ultimately beneficial applications in medicine. But today, technetium-99m is the most widely used radioisotope in 'in vivo' diagnostic medicine and has become one of the mainstays of nuclear medicine. More than 40,000 nuclear medicine procedures a day in the U.S. use Tc-99m."

Glenn Seaborg and the FFTF are outstanding "national treasures." Seaborg should be honored and remembered, and the FFTF should be restarted. Seaborg's accomplishments clearly show he was the United States' most distinguished scientist.

His continuing support for medical isotopes and the FFTF was shown best to me when he autographed some of his written works for me with the words, "To Bob Schenter, a collaborator in the use of radioisotopes in nuclear medicine," and "To Bob Schenter, a fellow cancer fighter." ♦