

U.S. Holds Off on Nuclear Isotopic Research Facility

US DOE hasn't been doing useful research for years. Meanwhile we buy our medical isotopes from Canada.

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The U.S. Department of Energy is delaying construction of a \$1 billion atom smasher for five years, a letdown for scientists at Illinois' Argonne National Laboratory and Michigan State University, which have been vying to house the new accelerator.

Energy Secretary Samuel Bodman told Congress recently that plans for the Rare Isotope Accelerator would be pushed back. In response to a question by Congressman Joe Schwarz (R-Mich.), Bodman said the DOE would provide \$5 to \$6 million per year for project research and development, aiming for a preliminary blueprint for the facility by 2011.

Argonne, west of Chicago, and Michigan State in East Lansing are the leading contenders for the facility. The U.S. government was expected to choose a site for the facility last year.

The RIA will generate rare isotopes, unstable forms of atoms normally produced when stars explode. The isotopes offer clues to atomic structure and the RIA is expected to supply research opportunities in nuclear energy and medicine as well. When completed, scientists from around the world will use the RIA to better understand how stars form elements. Researchers can also use the machine to trace how molecules and medicines move through the human body.

"Just like every scientist, I am in a hurry," said Argonne physicist Robert Janssens of the delay in plans to build the facility. But Janssens, a member of the laboratory committee recruiting for the RIA, said it is the big picture that matters.

"A project of this magnitude always takes a lot of time before it gets done and that's because it costs a lot of money," Janssens said.

The RIA will accelerate atoms through screens, stripping off their electrons and smashing them into targets to make isotopes of elements ranging from hydrogen to uranium.

Janssens said the extra time gives scientists a chance to work on some of the preliminaries for research the RIA will explore.

"There's no hiding that we are disappointed," said Janssens. "But there is no hiding that the field is alive and well." He pointed to ongoing work could affect the research scientists pursue with the new facility.

Janssens said experiments at Michigan State can already produce rare isotopes but only in very small quantities compared to what the RIA will produce.

"Every advance we make today allows us to improve the model, this picture we have of the [atomic] nucleus," he said. This will allow scientists to ask better questions and "do better experiments with the RIA," he said.

Janssens said Bodman's announcement gives a definite commitment to the RIA.

But Bradley Moore, vice president for research at Northwestern University, said the future of RIA, in its present design at least, is less than certain.

"When something is delayed for five years, it's clear it's not at the top of the priority list," said Moore, a member of Gov. Rod Blagojevich's RIA for Illinois task force. "Where is it going to be on the priority list five years from now?"

Moore agreed that five more years of research could be put to good use, however. He said the delay provides the opportunity to build a newer, better machine.

"There will undoubtedly be enough changes in technology that you would look at the whole anew," Moore said.

Rare isotope facilities will be going up in Germany and Japan, but Janssens said this doesn't spell doom for the RIA.

"Sure, they will be a step ahead of us, but that doesn't mean we can't collaborate," Janssens said. "Physics is a very international field. We should learn from what these guys are doing."