

The Patriot-News

Disposal of nuclear waste nears crisis stage

Nation running out of room for material

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At some point, you or someone you know will benefit from a little-known radioactive isotope with a name that sounds like something out of a Spider-Man comic book -- technetium-99m.

Doctors rely on it to diagnose conditions such as heart disease and bone cancer.

"It's wonderful," said Steve King, the director of health physics at Penn State Milton S. Hershey Medical Center. "You inject it and it's gone in a day or two, but it gives us a nice picture."

But making nuclear medicines such as tech, as King calls it, creates radioactive trash that must be shipped to one of three specially licensed facilities for storage. On July 1, one of those three, the Energy Solutions landfill in Barnwell, S.C., will close its doors.

For Pennsylvania and 35 other states, it is the only place to send some forms of low-level radioactive waste. And while alternative temporary storage might be available, experts say a bigger issue is finding a long-term solution for the waste.

"This will be a national crisis," said Dave Allard, director of Pennsylvania's Radiation Control Program. "Many states will not have adequate storage."

Pennsylvania, which is one of the largest producers of low-level radioactive waste, is better off than most, he said. Many users responding to a survey by Allard's office said they have space to store the trash for up to 20 years.

In Pennsylvania, the closure will affect more than 1,000 hospitals, universities and businesses that use radioactive materials and generate contaminated trash. The materials are used to provide crucial services, such as generating electricity, diagnosing cancer, manufacturing smoke detectors, and looking for structural weaknesses in bridges and airplanes.

Most will be able to ship the bulk of their waste to a site in Clive, Utah. But Clive accepts only the lowest level of contamination. Waste with higher radioactivity will have to be stored where

it is made or used indefinitely.

"We're taking a viewpoint that folks need to take measures that would cover them for the next 50 years," said Steve Kerekes, a spokesman for the Nuclear Energy Institute in Washington, D.C., which represents the nuclear power industry. By that time, the institute hopes a permanent solution will be in place.

The nuclear industry produces about 42 percent of the volume of low-level radioactive waste shipped to disposal sites, according to the Electric Power Research Institute.

Without access to permanent storage, some users will have to build space for temporary storage. Such areas must meet federal regulatory standards for safety and security, said Neil Sheehan, a spokesman for the U.S. Nuclear Regulatory Commission.

The lack of disposal capacity is driving some companies that make nuclear medicines out of the country, Allard said. That has resulted in some quality-control issues in the market.

Hershey Medical Center gets technetium-99m from a company in Canada. When the reactor it uses to make the isotope shut down for maintenance, it created a shortage in the market.

"There is a web of suppliers who feed into the system," King said. "If they don't have a way to get rid of [their waste], we're up the creek."

In 1980, Congress made the states responsible for low-level radioactive waste. Ten regional compacts were formed to build storage for 43 states. Pennsylvania joined with West Virginia, Maryland and Delaware and spent years and millions of dollars designing an above-grade storage system. The process met strong public opposition, and Gov. Tom Ridge pulled the plug on the process in 1998.

Will that process be revived?

Not likely, said Rich Janati, the chief of the division of nuclear safety at the state Department of Environmental Protection's Bureau of Radiation Protection.

"Economically, it wouldn't make sense," Janati said, because the volume of trash stranded by the Barnwell closing is too small.

State and industry officials are anticipating that the private sector will fill the void, but that's not a certainty. A company called Waste Control Specialists in Texas is seeking permission to accept higher-level radioactive waste at its facility, Janati said.

Government-led efforts to build storage sites failed, in part, because public fear of radiation is out of proportion to its danger, said John Weingart, the associate director of the Eagleton Institute of Politics at Rutgers University in New Brunswick, N.J., and the executive director of New Jersey's effort to build a storage site in the 1990s. Weingart wrote a book about his experience, "Waste is a Terrible Thing to Mind."

"The things people know about nuclear power are Hiroshima, Nagasaki, TMI, Chernobyl and Homer Simpson. And those are very powerful images," he said.

Eric Epstein, the chairman of the watchdog group Three Mile Island Alert, said radioactive waste has been ignored by lawmakers for too long. If nothing is done, future generations will be stuck with solving the disposal problem, just as Pennsylvanians today are stuck with cleaning up abandoned coal mines, he said.

"I think people need to understand that there is no radioactive tooth fairy who is going to appear and take care of this issue," he said.

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HOT TRASH

Low-level radioactive waste typically consists of contaminated protective shoe covers and clothing, rags, mops, filters, reactor water treatment residue, equipment and tools, luminous dials, medical tubes, swabs, injection needles, syringes, and laboratory animal carcasses and tissues. The radioactivity can range from just above background levels found in nature to highly radioactive in certain cases such as parts from inside the reactor vessel in a nuclear power plant. Source: Nuclear Regulatory Commission

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