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Nuclear Agency Weighs a Plan to Dilute Waste

By **MATTHEW L. WALD**

BETHESDA, Md. — A competition between nuclear waste dumps has pulled the [Nuclear Regulatory Commission](#) into an unusual reconsideration of its rules to allow moderately radioactive materials to be diluted into a milder category that is easier to bury.

At issue is whether a site in Utah that is licensed to accept only the mildest category of radioactive waste, called Class A, could accept far more potent materials, known as Class B and C wastes, by blending the three together.

Even low-level radioactive waste is a growing problem, with few licensed repositories to dispose of it. The problem dates from the early 1980s, when Congress said that the federal government would take care of high-level waste, like spent fuel from nuclear power plants, but that the states would have to find sites for low-level material, like the radiation sources used in cancer treatments and industrial X-rays, and filters used in nuclear plants.

In reality, both the federal and state efforts mostly failed. There is no national disposal spot for the spent fuel, and for 32 states, no place to send their low-level wastes. Around the country, the inventory of low-level wastes with no place to go is growing by about 10,000 cubic feet a year.

EnergySolutions of Salt Lake City has asked state regulators in Tennessee for permission to blend wastes together there so they would qualify for disposal in its dump in Clive, Utah, in the desert about 80 miles west of Salt Lake. If allowed, it would open a potentially vast market to

the company.

A rival company, Waste Control Specialists of Andrews, Tex., is arguing that a repository it hopes to open late this year, specifically for B- and C-class wastes, would provide better protection in case an intruder blundered onto the site in the future. The company also says it could provide less expensive service to waste producers like hospitals if it had a bigger market.

The Nuclear Regulatory Commission heard arguments on Thursday from representatives of each company, as well as radiation safety officials from three states, the lawyer for a company that processes waste for burial and an expert from a group that opposes nuclear power.

Diane D'Arrigo, of the antinuclear group Nuclear Information and Resource Service, told the commissioners that the argument came down to "which of two corporate schemes to support."

Commission rules prohibit diluting wastes with clean material because that would increase the volume of contaminated material, but mixing dirtier materials with slightly dirty ones would not increase the volume, experts said. One possible solution, outlined by the commission staff, is a site-by-site analysis to judge which places licensed for A waste could handle blended material.

By one estimate, the states have collectively spent about \$1 billion in the last 25 years looking for places to put wastes, and some have entered into multistate compacts to handle the material. A site in Barnwell, S.C., which used to serve the whole civilian nuclear industry and hospitals, universities and other waste generators, closed in 2008 except for wastes from South Carolina, New Jersey and Connecticut. A compact in the Pacific Northwest opened a repository at Hanford, the federal nuclear reservation in Washington, and another may open in Andrews, Tex., which would serve Texas, Vermont and perhaps other states.

The size of the market is not clear, but the [Government Accountability Office](#) reported in 2004 that Barnwell was charging as much as \$1,625 per cubic foot of waste. Even with waste reduction technologies, the amount of waste per year amounts to thousands of cubic feet.

Studsvik, a Swedish company with operations in Tennessee, cooks wastes into smaller volumes to reduce storage costs and opposes the idea of dilution. Rebecca Kelley, a spokeswoman for

Studsvik, said that with the higher-level waste blended in, the radioactivity emitted might meet the initial rules for the lowest category. However, she said that the higher-level waste stayed radioactive longer, and that after 100 years, it could still be 450 times more radioactive than the standard for the lowest category.

The fear is that an “inadvertent intruder” would decide, some decades or centuries hence, to build a house on top of the dump and excavate the wastes. Class A waste is safe enough to go in shallow trenches.

EnergySolutions stressed that it mattered only what standard the waste met when it was packaged for burial, and not how it got that way. “If it’s A, it’s A,” said Dale Didion, a company spokesman. “How it gets to that really, really low level, as long as it’s at low level, really doesn’t matter.”

Pennsylvania, with nine operating reactors and no place to put the wastes, supports the company’s request. Utah opposes it, arguing it violates the premise under which the site was licensed. Blending might raise new safety questions, but the commission chairman, Gregory B. Jaczko, pointed out that permanent burial offered advantages over above-ground storage.

The commission has no timetable for making a decision, and the agency is not even certain whether its existing regulations already allow the kind of blending that EnergySolutions is proposing.