

# DOE, States Reheat Nuclear Waste Debate

*States fear the department is compromising the process for selecting a permanent disposal site by pushing to meet Congress's 1998 deadline*

After decades of struggling with the issue, Congress in late 1982 established a firm plan for burying growing volumes of nuclear reactor wastes. But 2½ years later the waste disposal debate is as hot as ever. Utility companies, environmentalists, federal officials, and state governments are again clashing—this time over the way the program is proceeding.

The Nuclear Waste Policy Act calls for the Department of Energy to start accepting wastes in 1998 at the first of two planned repositories. Selection of this first repository site was mandated for early 1987, but program delays at DOE have pushed the decision back to March 1991. Despite this postponement and other schedule slips, the department still aims to meet Congress's 1998 deadline. But states, Indian tribes, and environmentalists fear the site selection process will be compromised and want the start up date rolled back.

"Absent some solution, what we are going to see is an increasing deterioration between the states and the federal government," says Nuclear Regulatory Commission member James K. Asseltine, who wonders whether waste disposal will occur in his lifetime. "What I am afraid is happening is that states and the Department of Energy are now jockeying to put themselves in the best legal position."

DOE already faces legal challenges on a range of environmental issues. However, with storage space for spent fuel diminishing and with repository life-cycle costs jumping from \$18 billion to a staggering \$27 billion, the pressures to proceed are intense. Slated to be the nation's largest civil works project, the repository program calls for burying packaged high-level nuclear wastes 1200 to 3000 feet below ground in a network of tunnels. The aim is to isolate wastes for 10,000 years. The release of radionuclides from the barrier system is not to exceed one part in 100,000 per year after 1000 years.

The location of the first repository has been narrowed to three geologic formations: volcanic tuff at Yucca Mountain, Nevada; basalt at Hanford, Washington; and bedded salt at Deaf Smith County, Texas. Each site poses formidable questions about hydrologic behavior

and the effects of heat-induced stress on geologic structures. In Texas, for example, access shafts would have to penetrate the Ogalla and Santa Rosa aquifers. State officials, in fact, charge that DOE has not adequately studied the potential for damaging the aquifers.

Directing DOE's waste disposal mission for the past 15 months has been Ben C. Rusche, a former Nuclear Regulatory Commission official. Accusations that the department is compromising the site evaluation process to meet the 1998 deadline are to be expected, he says. "We are in a very crucial period of the program," says Rusche, who hopes that opposition will wane once detailed site studies get under way.

DOE expects to get White House approval in January to conduct these studies, a process identified as "site characterization," at the Texas, Nevada, and Washington locations. These studies entail drilling 6- to 12-foot-diameter test shafts at each site and must precede the selection of the first repository site. Also, in January, Congress will be asked to approve construction of a related high-level waste packaging and interim storage complex. On another front, DOE is nearing the start of early field studies of six states with crystalline rock structures suitable as candidates for a second repository that would open in 2006. DOE wants to develop the second repository in a crystalline formation for purposes of diversity and political necessity.

"These are all very, very major decisions," says Rusche who is not about to back away from the 1998 deadline, even though his department has gotten off to a slow start. "They are the . . . first major test of the seriousness of Congress when the act was adopted."

Rusche's steadfastness gets high marks from the Edison Electric Institute, which is monitoring the implementation of the waste act in behalf of utilities that operate the nation's 92 nuclear power reactors. "He is not reluctant to be a little firm when someone is trying to buffalo him," says Loring Mills, the Edison Electric Institute's vice president for nuclear activities.

The nuclear power industry is anxious to see the repository open on time. Delays could force plant operators to build

additional storage pools or acquire dry storage casks. At present utilities have about 12,600 metric tons of spent uranium waiting for disposal and another 30,000 tons will pile up by 1998. In addition, DOE recommended in February that 10,000 tons of solidified Department of Defense wastes also will be stored in the civilian repositories.

These utilities' customers already are financing the cost of the federal program through a 0.1-cent charge on each kilowatt-hour of power sold. The General Accounting Office indicates that this rate must be increased to cover rising program costs. Ratepayers have contributed \$2 billion to the nuclear waste fund since 1983, \$734 million of which has been spent by DOE.

DOE, in fact, signed contracts with nuclear utilities in early 1983, binding itself to take legal charge of spent fuel by 1998. But state officials and environmentalists say DOE's dogged pursuit of the 1998 deadline in behalf of the utility industry is foolish and unnecessary. "The affected states' demand for technical excellence cannot be met if DOE adheres to the schedule in the act," says Steve Frishman, director of Texas' nuclear waste program. Their concerns are shared by two federal agencies.

The U.S. Geological Survey, for example, says it cannot assemble adequate hydrologic data on the Yucca, Nevada, site by December 1989 to enable DOE to submit its construction license application to the NRC in May 1991. James F. Devine, USGS's assistant director for engineering geology, says site studies will not be completed before the end of 1991. "Some risks must be assumed by DOE," he says, "if preliminary data [available in 1989] and interpretations are used in the performance assessment to support a license application."

Under the waste act, the Nuclear Regulatory Commission has 3 years to deliberate DOE's construction license application. Because of delays, DOE wants NRC to complete its review within 27 months. But Chairman Nunzio J. Palladino says that even the 36 months allowed under the act is "a very optimistic estimate for the time required to reach a licensing decision." The timeliness of NRC's action, Palladino warns, will

hinge on DOE's taking a "conservative approach to its technical work" and the submittal of a "high-quality application."

David Berick, director of the Environmental Policy Center's nuclear waste program, says there is no time for conservative work as long as DOE pursues the 1998 deadline. He notes that in the case of the Texas salt bed, DOE will collect just 8 months of data. Had the start of detailed site studies not been delayed 1 year, he adds, more time for data collection might exist. The failure to roll back the repository operation date in the face of such delays, argues Curtis Echels, special assistant to Washington Governor Booth Gardner, may jeopardize public confidence. Draft environmental assessments on the three sites, which were criticized for their poor quality, drew 20,000 comments.

Rusche, however, swears he will not sacrifice technical excellence and safety to meet the 1998 operating goal. "If we get to the place where the only thing we can do to meet the schedules is to compromise on health and safety issues, we are not going to do it."

Such pledges are unlikely to satisfy disgruntled states. A survey conducted for the utility industry by Creighton & Creighton, Inc., a California consulting firm, reveals that DOE's relations with states, Indian tribes, and localities are severely strained. Fundamental differences exist between DOE and the states, for example, on their role in shaping the site selection process.

To resolve their differences with DOE, the states have been turning to the courts. The eight states and the Environmental Policy Institute have asked the 9th U.S. Circuit Court of Appeals to overturn DOE's final siting guidelines, charging that they are unbalanced and overlook some environmental and technical criteria. Nevada is asking the same court to require the department to provide funds to allow the state to conduct its own studies at Yucca Mountain.

Perhaps the most volatile question destined for the courts is whether DOE can preliminarily declare the Yucca Mountain, Deaf Smith County, and Hanford locations to be suitable repository sites before detailed multimillion dollar environmental site studies are done. It is a fine legal point, which Congress failed to make clear in section 114(f) of the waste policy act. By declaring the site suitable at the outset of site characterization, Rusche has interpreted the act to mean that only one site must be found adequate at the conclusion of these detailed studies.

Affected states and environmentalists argue that Congress wanted three sites to survive the characterization studies. Thus, the sites cannot be declared suitable until site studies are complete. The National Environmental Policy Act of 1969 stipulates that a choice be made from three relatively equal sites, says EPI's Berick. This approach would: require that more sites be studied, produce further delays, and run up expenses. The site studies are estimated to cost \$700 million each.

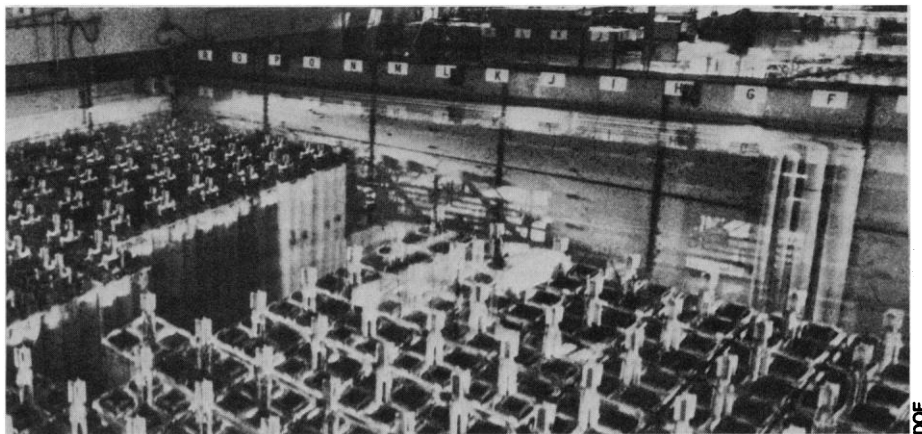
"If he is right, he will have saved the country some time and money," says Robert Loux, director of Nevada's nuclear waste office, about Rusche's gamble. "If he is wrong, the repository program is going to be set back 10 or 12 years."

Legal challenges to DOE's interpretation of section 114(f) could come next

Not only are the state's key congressional members miffed, but Tennessee has gone to court, charging the department with ignoring the waste act's "consultation and concurrence" requirements.

"If they want the support of this state they should have come to the state from the start," says a dismayed James B. Moegling, manager of the Tennessee Valley Authority's spent fuel program. Although Rusche says he is doing his best to improve department relations with the states, the department's lack of political savvy in handling issues such as the MRS has segments of the utility industry worrying whether the repository program is about to stall.

Congressional scrutiny of DOE's implementation of the waste act began hearings held in August and September



*Spent reactor fuel at a General Electric Storage pool awaits disposal.*

year with the start of detailed studies at the first three sites. But court action might have to wait until actual site selection occurs in 1991. Still more litigation can be expected on DOE's forthcoming environmental assessments and the Environmental Protection Agency's radiation standards for repositories.

DOE could find some breathing room next spring when Congress takes up the department's plan to build a waste packaging and interim storage complex known as the monitored retrievable storage facility—or "MRS." Slated to operate in 1996, this project could permit the DOE to take limited amounts of spent fuel, while delaying the repository opening enough to lessen concerns about inadequate data collection.

Whether Congress will approve the MRS is uncertain. The department has gotten off to a clumsy start in its pitch for an MRS, which was unveiled in July. Potential sites for the MRS were narrowed to three spots in Tennessee—Oak Ridge, Hartsville, and Clinch River—without consulting with state officials.

by House and Senate committees. Yet another hearing is scheduled in late October by Sen. Alan K. Simpson (R-Wyo.), chairman of the subcommittee on nuclear regulation. The first real opportunity, however, for Congress to clear up points of contention in the waste act will not come until spring, when it decides whether to construct the retrievable storage facility.

The lack of consensus within the Congress, however, casts doubt on whether the program's course will be altered. House committees appear to side with the states and environmentalists, who see the department going too fast. But key Senate committees still support Rusche's push to meet the 1998 deadline.

But without some effort to bring warring factions together, looming litigation seems certain to push high-level nuclear waste disposal into the next century. Says TVA's Moegling about the waste act's 1998 deadline: "Don't plan on it." Polls of industry waste specialists, he notes, put start-up of the first repository at 2008 or later.—MARK CRAWFORD