

Radwaste program: A delay in plans

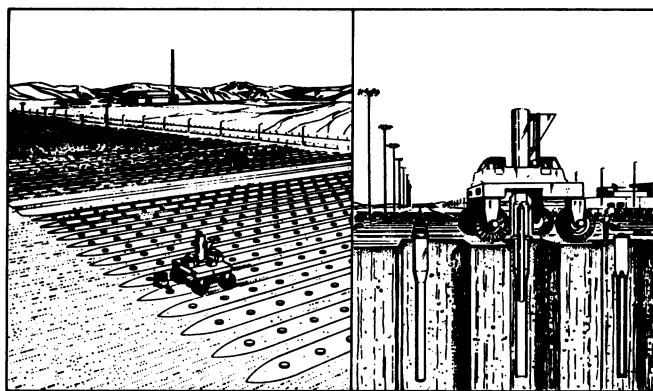
With the release of the first draft of its "mission plan" for managing radioactive waste from nuclear power plants, the Department of Energy (DOE) late last month took another small but important step toward building the nation's first permanent repository for highly radioactive waste. And, only one year after the passage of the Nuclear Waste Policy Act that set the program in motion (SN: 1/1/83, p. 6), squirming DOE officials find themselves caught in the straightjacket of a tight, congressionally mandated schedule and already facing delays and complaints. They concede that the program's goal of having a permanent repository operating by early 1998 may not be met.

Robert L. Morgan, acting director of DOE's civilian radioactive-waste management office, said recently, "We are concerned about the very optimistic timetable... [but] we will dispose of whatever waste we receive, in whatever form, beginning in 1998." To ensure that some kind of facility will be ready on time to accept nuclear waste shipments from utilities, the mission plan, which outlines DOE's thinking on how the department intends to meet its obligations, calls for a parallel program to design and find a site for a "monitored retrievable storage" (MRS) facility. If Congress approves the construction of such a facility for temporary storage of high-level nuclear waste, it will serve as a backup in case the permanent repository is unfinished.

Compared with the special conditions needed for a permanent, geological repository — which will be sunk deep into a suitable rock formation — the requirements for an MRS facility are less stringent. According to the plan, acceptable MRS sites could probably be found in any state. One possible scheme involves sealing radioactive waste into special casks that are then stored in a field of dry wells or in large surface vaults. Depending on its capacity, an MRS facility could cost as much as \$2 billion. Next month, DOE hopes to publish a draft of its criteria for selecting potential MRS sites.

Some critics question whether DOE's concept of an MRS facility as an elaborate temporary storage system actually meets the intent of the Nuclear Waste Policy Act. The act clearly states that MRS is an option for "long-term storage" with continuous monitoring "for the foreseeable future" that allows the possibility of recovering the stored material for later use.

Commenting on the mandated schedule, Rep. Morris K. Udall (D-Ariz.), who was instrumental in getting the nuclear waste legislation through Congress, said at a recent DOE public meeting, "We were not all-knowing when we set those dates." He suggested that the timetable provided a



The dry-well scheme for a monitored retrievable storage facility.

way of assessing the program's progress, and if necessary, the law could be "bent a little to get the job done." Udall said, "We gave the states and the public a powerful and direct role in decisions that will shape the program in the next 15 years." Much of the uncertainty in the schedule depends on how DOE responds to that input. DOE's effort is still not well organized, Udall noted, partly because the nuclear waste program has been without a permanent director for almost a year and most of the other senior positions are filled on an "acting" basis.

The first major delay in the program occurred in the process of coming up with guidelines for recommending a site as the location for a permanent repository. These guidelines, due last July, were finally forwarded to the Nuclear Regulatory Commission (NRC) for review late in November. The six-month delay came about because of extensive revisions that had to be made after DOE received about 2,000 comments on its original proposal. State representatives, in particular, complained that they should have been consulted earlier in the process. The experience with the guidelines led DOE to issue its proposed mission plan in draft form before it officially appears in the FEDERAL REGISTER next spring. Officials expect that this could save time by settling many issues before public hearings take place.

Although NRC has not yet completed its review of the selection guidelines for a permanent repository site, DOE is planning to nominate as early as this month at least five sites for detailed environmental assessments. They will be selected from the nine sites that DOE has studied so far and will represent a wide range of different types of rock, including salt, basalt and a "welded" volcanic ash called tuff (SN: 5/21/83, p. 329). Any sites not meeting the guidelines will be eliminated from further consideration.

"Every site has significant opposition," said DOE's Michael J. Lawrence. "Obviously, people wouldn't like to have this facility near them." Local opponents are already preparing arguments that include technical reasons why the nominated sites are unsuitable.

Morgan admitted that the current selection process does not identify the best possible site in the country for a geological repository. The department has to be satisfied with finding an acceptable site that meets all the requirements, he said.

"The utilities and the taxpayers do not have the funds to find the *best* site," Morgan said. Just drilling a test shaft and characterizing a site thoroughly could cost \$100 million. To meet the schedule, DOE had to go with sites already known, he said. This eliminated granite, for example, as a medium for the first repository.

Utilities with nuclear reactors are worried not only about where they will store their used fuel as on-site storage pools fill but also about how DOE is spending their money. The entire civilian nuclear waste management program is funded by a special levy of one-tenth of a cent for every kilowatt-hour of energy generated by nuclear power, which adds up to about \$400 million a year. In return for the fee, DOE last June signed 70 contracts with 56 different organizations, including 46 utilities, promising to provide for the eventual disposal of their nuclear wastes.

Representatives of the nuclear industry have questioned DOE's ability to control the cost of the program. "Is the money being well-spent?" asked Edwin Wiggin of the Atomic Industrial Forum, headquartered in Bethesda, Md. He worried about the cost of delays due to "political and social matters" rather than technical problems and because of the tendency of DOE's national laboratories "to research a problem to death." Wiggin said, "Most of the basic research has been accomplished. We can make a mistake in looking for the perfect answer when an 'adequate' answer is enough."

DOE is being closely watched not only by the states, Congress and the nuclear industry but also by NRC. NRC's John G. Davis said, "We see ourselves as the public's advocate for safety." What isn't clear yet is how easily NRC will get the information it needs in order to evaluate DOE's plans and to license the construction of a permanent repository.

The mission plan describes the nuclear waste program as a "high-risk undertaking." Because many of the activities must be performed in a certain sequence, a delay in meeting one milestone may delay the start of a subsequent activity, the plan says. J. William Bennett, one of the DOE officials responsible for establishing the geological repository, commented, "It will not be an easy matter to implement [the plan]." The year 1983 was both hectic and frustrating, yet a lot was accomplished, he said; 1984 looks even more busy.

— I. Peterson