High-Level Politics over Low-Level Waste

A federal law that could leave many states with nowhere to dump their nuclear trash after 1985 is prompting a search for new sites

In December 1980, Congress lit a slow fuse under the politically explosive topic of low-level nuclear waste disposal. It passed legislation that means, in effect, that unless three or four new disposal facilities are constructed by 1 January 1986, many states could conceivably be denied access to the nation's three existing commercial dump sites. Without anywhere to dispose of their nuclear garbage, those states could be faced with the prospect of shutting down facilities that generate low-level wastes—chiefly power plants, hospitals, and research institutions. Yet, in spite of this threat, not a single new disposal site is likely to be in operation by the deadline.

Few people expect that any operations will actually be shut down, but the legislation has nevertheless pushed the states into a complex series of negotiations and forced them to begin to deal with a problem that many would rather ignore. By the end of the decade, most state officials predict, the act will have achieved its goal—but only after a good deal more political maneuvering at the state level.

The legislation tossed the problem of where to dispose of low-level wastes firmly to the states. In essence, it told the states either to deal with their own wastes or form coalitions to build and operate regional facilities. The kicker in the legislation is a provision that permits regional coalitions—called compacts—to exclude wastes from nonmember states after 1 January 1986. This means that those states that do not belong to a compact with an operating facility or that do not have a dump site of their own could find themselves with nowhere to get rid of their nuclear garbage.

In the 3 years since the legislation was passed, six regional compacts have been formed, but only two of them—the Northwest and Southeast—now have major disposal facilities. They are located at Hanford, Washington, and Barnwell, South Carolina. A third dump site, in Beatty, Nevada, currently receives less than 5 percent of the nation's commercially generated low-level wastes, and it is scheduled to be shut down in the near future. The others are not likely to have a facility in operation much before the end of the decade. In addition, Texas and California have announced that they will develop their own sites, but neither will meet the 1986 deadline.

Moreover, many states that generate large volumes of waste—including Massachusetts, Pennsylvania, New York, and Illinois—have not yet joined compacts and are not likely to have their own sites operating before 1990 if they should choose to go it alone. Thus, the legislation will effectively permit the states in the Northwest and Southeast compacts to decide whether, and under what conditions, they will accept waste from elsewhere in the late 1980's.

It was, in fact, the states that currently have disposal sites—Washington, South Carolina, and Nevada—that provided the initial impetus for the federal legislation. In 1979, because of safety problems that included leaky containers and a fire on a truck carrying low-level wastes, Washington and Nevada temporarily shut down their disposal sites. South Carolina, unwilling to be the dumping ground for the entire nation, at about the same time restricted the amount of wastes it would accept. Although these actions were later rescinded, they provoked a crisis because there was suddenly nowhere for many institutions to dump their nuclear trash. According to a 1980 study by the General Accounting Office, several institutions claimed they were within 2 weeks of halting some medical research and treatment if the sites were not reopened.

The governors of all three states thus served notice that something had to be done about the low-level waste problem. They made it clear that their states should not be expected to accept wastes from the rest of the nation indefinitely—a message that was forcefully underlined in 1980 by the citizens of Washington, who approved by a margin of three to one a referendum that sought to bar wastes from elsewhere from being dumped in their state.

Part of their concern stemmed from the fact that while the volume of low-level wastes was rising rapidly, the number of disposal sites was shrinking. In the early 1970's, in addition to the sites at Hanford, Barnwell, and Beatty, facilities at Maxey Flats, Kentucky; West Valley, New York; and Sheffield, Illinois, were accepting commercially gen-

Department of Energy

The Hanford disposal site: still available, but for how long?

erated wastes. (Wastes generated by government operations, including the nuclear weapons program, are disposed of at federally owned facilities.) But the West Valley site was closed in 1975, when water contaminated with radionuclides leaked from burial trenches. Similar problems led to the closure of the Maxey Flats site in 1977, and 15 months later, the Sheffield facility was shut down when it reached its capacity.

Hanford and Barnwell took up most of the slack and, with no other facilities then under construction, they were facing the prospect of accommodating ever-increasing volumes of waste. In 1979, some 2.8 million cubic feet of low-level wastes were generated in the United States. This is expected to climb to 5 million cubic feet by the mid-1980's, and 8 million cubic feet by the end of the century.

The governors of Washington, South Carolina, and Nevada took their concerns to the National Governors' Association, which proposed that regional sites be established and that they be required to accept material originating only within the region. This proposal eventually became the basis of the federal legislation passed by Congress in December 1980, which authorized the establishment of regional waste compacts and gave them the authority to exclude wastes from nonmember states after 1 January 1986.

Not surprisingly, the first regions to form compacts were the Northwest and Southeast, which already possess operating sites. In fact, so eager was the Northwest to stop being the nation's dumping ground that its compact sought to exclude wastes from nonmember states after 1 July 1983. That caused some alarm in other regions, but was probably illegal since it went beyond the terms of the legislation; Hanford is still accepting out-of-state wastes.

A compact consisting of several Rocky Mountain states, including Nevada, has access to the Beatty site. But the agreement specifies that Beatty will be closed within 6 years of the formation of the compact. Colorado, the largest producer of low-level waste in the compact, has agreed to be the host for a new disposal facility and is in the process of selecting a site. It asked for volunteers and has had some interest from Montrose County, a uranium mining area that currently has a high level of unemployment. State officials say they hope to have a facility in operation by the late 1980's.

Other regions are not so far along. Arkansas, Kansas, Louisiana, Nebraska, and Oklahoma have formed a compact, but have not yet begun to select a disposal site. A Midwest compact has also been negotiated, but so far only four states—Michigan, Iowa, Indiana, and Minnesota—have formally joined. Illinois, by far the largest waste generator in the region, is unhappy with some aspects of the compact and has not yet signed on. According to an official in Michigan, which is taking a lead role in the Midwest compact, the process of selecting a site will not begin until late this year, and it is likely to be the early 1990's before a facility is operating.

The Northeast is in the worst shape. The region generates almost half the nation's low-level wastes, but since the closure of the West Valley facility it has no disposal site of its own. Although a compact has been negotiated, only Connecticut, New Jersey, Delaware, and Maryland have ratified it. The largest generators in the region—Massachusetts, Pennsylvania, and New York—have reservations about joining the compact and are currently reviewing their options.

What is happening in Massachusetts, which is currently the largest generator of low-level wastes in the nation, provides an extreme example of the political sensibilities involved in the nuclear waste issue. In 1982, Massachusetts voters approved a proposition, which is now state law, requiring a state-wide referendum before a low-level waste facility is constructed in Massachusetts. It also requires that membership by Massachusetts in any interstate compact be approved by the voters. This proposition, which was passed over the opposition of the governor, industrial groups, many academics, and most environmental groups aside from the Sierra Club, "leaves us in a rather difficult position, to say the least," notes Richard Smith, the executive director of a special legislative committee that has been established to develop policy on low-level waste disposal.

These restrictions make it difficult for other states to accept Massachusetts as a compact member because they would pose considerable obstacles to the location of a regional facility in the state. Massachusetts, in turn, has reservations about the terms of the Northeast compact. Consequently, state officials are exploring several options, including forming a compact with some other large waste generators or building a disposal facility for Massachusetts alone.

Only two other states, California and Texas, have decided to go it alone. Texas is already looking for a site and hopes to have a facility in operation by 1988. It decided early on that the quickest and surest way of dealing with its waste problem was to take care of its own trash. California has come to that conclusion more recently, and by a different route.

When the Northwest compact was formed, California, by far the largest generator of low-level wastes in the West, was not invited to join. The Brown administration, according to one state official, "buried its head in the sand and hoped the problem would go away." Recently, however, the new governor, George Deukmejian, announced that California will seek other partners in an

Delay Likely in High-Level Program

The political maneuvering over low-level radioactive wastes is likely to be tame compared with the expected skirmishing over high-level waste. Low-level material, which consists of such items as contaminated glassware, lab coats, and paper trash, requires little if any shielding and its radioactivity is relatively short-lived. It can be disposed of in shallow trenches, and dump sites will need to be monitored for perhaps a century after dumping ends. High-level wastes, in contrast, are intensely radioactive and must be disposed of in geological formations that will effectively isolate the wastes from the environment for several thousand years.

In December 1982, Congress passed legislation establishing a timetable for choosing a site to dispose of high-level wastes. It called for a site to be selected by 31 March 1987 and a facility to be in operation by 1998. Last month, however, the Department of Energy (DOE) announced that it is likely to be 3 years behind schedule. DOE is currently considering potential sites in Utah, Nevada, Texas, Oklahoma, Louisiana, and Washington, and hopes to narrow the choice to three sites in January 1985. Exploratory drilling and testing at the three sites will not be completed until September 1989, DOE says, and final selection is likely to be in 1990.—**C.N.**

interstate compact, and in the meantime it is pushing ahead with a site of its own. In congressional testimony late last year, Joseph Ward, chief of California's radiological health branch, even announced that California might be willing to make its site a regional facility for the entire western states. So far, that suggestion has been greeted with near total silence—even, surprisingly, from California voters.

California may be wise to seek partners for its waste facility, because there is a great deal of legal uncertainty over an individual state's right to exclude wastes from elsewhere. The attempt by Washington voters in 1980 to exclude out-of-state wastes, for example, was struck down by the courts because it violated interstate commerce laws. Thus, states that decide to build facilities exclusively for their own use could well find themselves de facto regional dump sites. Multistate compacts, on the other hand, can exclude wastes from nonmembers because Congress specifically gave them that right.

The 1980 low-level waste legislation has thus generated considerable activity at the state level, but there is a good deal of uncertainty about what will happen after the 1986 deadline. The expectation is that states outside the Northwest and Southeast will negotiate interim arrangements to continue dumping their wastes at Hanford and Barnwell until their own regional or individual facilities are in operation.

The Northwest and Southeast compacts do, indeed, provide for disposal of wastes from nonmembers if two-thirds of the compact members agree. But in congressional testimony last year, officials from the two regions indicated that approval would hinge upon how much progress other states were making in developing alternative sites. Representative Sid Morrison (R–Wash.) warned that "It is critical that we dissuade the political mentality in which state generators outside the Northwest rely on the Hanford site for post-1986 disposal and become complacent in their efforts to develop their own compacts and disposal sites. . . . We are dealing with a most sensitive issue in the eyes of Washington State citizens."

The stakes are high. As Alan Johnson, undersecretary of environmental affairs in Massachusetts, said at the same hearing, "in the event Massachusetts cannot come to a resolution (of the low-level waste disposal problem), a physician working at Massachusetts General Hospital can just as easily move to Houston's Methodist Hospital, or the New England Nuclear Company could just as easily be named the Golden Triangle Nuclear Company and move to North Carolina."

Congress, however, will not sit back and watch major disruptions take place because of the 1986 deadline. The legislation requires regional compacts to be approved by Congress before they have the force of federal law. (The Northwest, Southeast, Rocky Mountain, and Central States compacts have already been submitted for congressional approval, and the Midwest and Northeast compacts are expected to be submitted this year.) Congress thus has some leverage to ensure that interim arrangements are worked out. "We will probably sit on the compact agreements until some of these issues are resolved," predicts one congressional staff member. There will clearly be some intensive politicking as the deadline approaches.

—COLIN NORMAN

The Synthetic Fuels End Game

The Synthetic Fuels Corporation (SFC) is not about to go out of business, says its chairman, Edward E. Noble. He met with reporters on 5 January after a board meeting at which the SFC's directors discussed the prospects for 1984 and established a schedule for the coming year. Contrary to some published reports, the SFC has not decided to cut back the funds to be awarded (about $14 billion), nor has it any plan for ending its granting authority this year. However, the official schedule does suggest that the corporation may have little to do after 1984 beyond monitoring projects now in the pipeline.

At the 5 January press conference, SFC officials confirmed that a controversial board member, Robert A. G. Monks, is leaving to take a post at the Department of Labor. He has clashed with Noble over the way the synthetic fuels program is being run. Monks favored a more generous approach to funding and is seen as a supporter of the bailout appeal of the Great Plains Gasification Project (*Science*, 23 December, p. 1305). Noble at first opposed giving this project a price guarantee but in December agreed to reconsider. Although Monks reportedly hoped to stay on the SFC board while serving at the Labor Department, the SFC's bylaws made it difficult for him to hold both positions. His resignation from the SFC, effective 6 January, is likely to be accepted.

The SFC's goal for 1984, Noble said, "is to assist about a dozen projects which represent a diversity of resources and technologies, establish an industry and environmental infrastructure, and develop the management and manufacturing capability to assure this country that synthetic fuels will be available when we need them." The aim will be, first, to develop worthy coal and tar sands projects, and, second, to support more experimental oil shale recovery processes. Noble said that the SFC board had not set any target for the amount of money to be committed. "Things change so much from day to day," he added, that it is impossible to guess how much the corporation will give out in 1984.

The SFC's new calendar makes room for an accelerated review of the Great Plains bailout request, in the form of a special solicitation for large coal gasification ventures. The deadline for awarding a contract is set for August. In other areas, the SFC hopes to sign final contracts by June supporting two small heavy-oil plants in California and a peat-to-methanol scheme in North Carolina. The latter is opposed by local fishermen and environmentalists, who are suing to halt the project on grounds that it will damage North Carolina's wetlands and fish breeding areas. In July, the corporation aims to sign agreements with two large oil shale ventures in Colorado and a smaller and riskier shale project in Utah. The ambitious schedule also calls for the agency to close deals in all other categories: eastern coal gasification, Gulf Coast lignite gasification, and modification of old plants to use coal-water mixtures or synthetic coal products. In addition, the SFC plans a catch-all "general solicitation" ending in April to bring in any ideas that may have been ignored earlier. Agreements in this category are supposed to be signed in November, and the latest scheduled awards are to be made in early 1985.—ELIOT MARSHALL