

June 26, 1987



PUBLIC POLICY ADVISOR

LOW-LEVEL RADIOACTIVE WASTE DISPOSAL

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In an effort to share costs and responsibility for the disposal of low-level radioactive waste, in 1982 Michigan joined Ohio, Indiana, Wisconsin, Minnesota, Missouri, and Iowa to form the Midwest Interstate Low-Level Radioactive Waste Compact. Members agreed to locate a collective site for low-level radioactive waste disposal in one of the member states.

Radioactive waste products are of two types: high-level wastes generated by the nuclear power industry and the military; and low-level wastes generated by nuclear power plants and by medical, industrial, and research uses of radioactive materials. Low-level waste does not include nuclear reactor fuel, high-level waste from reactors or weapons production, or waste from uranium mining; most comes from operating and maintaining nuclear power plants. Low-level radioactive waste includes filters, clothing, tools, and reactor components. Seventy-five percent of the Midwest Compact area's volume is reactor waste. Other sources include nuclear medical practices and research institutions. The Midwest Compact states produce 7 percent of the national volume of low-level waste and 2 percent of the national radioactivity.

Low-level waste is divided into three classes. Class A is the least hazardous; Class B requires more careful protection; Class C is the most radioactive and most hazardous. In the Midwest Compact area, Class A waste makes up 87 percent of the volume, Class B 12 percent, and Class C only one percent. (Given the very long protection time Class C waste requires, many people, including Michigan's newly appointed representative to the compact's governing body, David Hales, support reopening the issue of assigning the federal government the responsibility for handling its disposal.)

On June 30 the commissioners of the Midwest Compact are scheduled to select a "host" state for the waste site if none of the seven member states has volunteered. Unfortunately, the volunteer/selection process is ill-defined, and fears about the political reaction in the state ultimately selected have resulted more in efforts to maximize political position than to deal with the problem.

An Operating Facility by January 1, 1993

The Low-Level Radioactive Policy Act passed by Congress in 1980 and amended in 1985 requires that low-level waste sites be operational in every region by January 1, 1993. By then, the three facilities that have been accepting the entire waste flow for the nation likely will be closed to out-of-state generators. (Much of Michigan's low-level radioactive waste is now shipped to South Carolina or Washington.)

The act authorizes the formation of regional compacts to establish disposal sites and allows them to refuse waste from nonmembers. Any state not in a compact will be responsible for the full cost and means of disposing of low-level radioactive waste generated inside its borders. In addition, noncompact states may not be able to exclude waste from other states because of the constitutional prohibition against restraint of interstate commerce.

In response to the federal mandate, the Midwest Compact was formed. Michigan became the first signator in 1982. To date, seven regional compacts have been formed, with 35 states participating. Of the remaining states, some are negotiating to form new compacts; some are petitioning to join existing compacts, and others have decided to go it alone.

The Midwest Compact is governed by a body comprised of one commissioner from each member state. The commission's principal responsibility is to identify a host state in which the regional facility will be located for twenty years. The commission must also select the successor host and provide for the sequential rotation of the facility to other states in the compact on a twenty-year cycle.

Federal law requires compacts to select a host state and complete a siting plan by January 1988. By January 1990 a license application must be submitted to the U.S. Nuclear Regulatory Commission. Moving to comply with these time lines, the Midwest Compact commission selected four potential hosts in February 1987: Michigan, Minnesota, Ohio, and Wisconsin. The selection criteria were the volume of low-level waste generated in each state and its level of radioactivity. On both these measures, Michigan tops the region.

Approximate Percentage

	<u>Volume</u>	<u>Radioactivity</u>
Michigan	33%	41%
Minnesota	22	12
Ohio	19	25
Iowa	10	9
Missouri	8	1
Wisconsin	6	12
Indiana	2	less than 1
TOTAL	100%	100%

Under federal law, the February selection of the four potential hosts set a ninety-day clock ticking toward a deadline, during which time a state could have withdrawn from the compact. The deadline expired June 2, but there now appear to be legal questions about whether the Midwest Compact commission's definition of the deadline conforms with compact provisions as ratified by the member states.

Since January the commission has been trying to elicit volunteer communities and a volunteer host state. In accordance with the commission's timetable, if there is no volunteer by June 30, it must select the host state and successor from the list of four. The selection criteria again will be volume and radioactivity plus transportation distance and safety factors.

While Michigan ranks lower on the transportation factor than some of the other compact members, it is a leader by a wide margin on the other factors. Thus, it is highly probable that Michigan will be designated to be the host state.

Intent on avoiding having to select a state, the commission has devised a benefits/compensation package as well as materials describing the disposal technology and has charged the states with disseminating the information.

In Michigan, responsibility for disseminating the information rests with the seven-member Michigan Radioactive Waste Control Committee (MRWCC), created by the Michigan legislature under Public Act 190 of 1985. As defined by law, the MRWCC is comprised of five experts and public members appointed by the governor, plus one each by the Speaker of the House and the Senate Majority Leader. The MRWCC organized a series of public information meetings around the state, which more than 400 people have attended to date. The committee continues to provide information and sponsor special community meetings for local groups.

Waste Disposal Facility Design

The method for low-level radioactive waste disposal used in the past was shallow land burial, but this has been criticized by some. Three such sites have been closed, two for environmental reasons and one because it had reached capacity.

The Midwest Compact commission has determined that an acceptable facility for this region must be one of four designs, all of which involve a structure (vault) or modular concrete canisters located either at or just below ground level. Unlike shallow land burial, this will enable individual containers to be identified and retrieved later if found to be releasing waste. (Retrieval is a point of contention between the compact commissioners and federal regulators. The Nuclear Regulatory Commission considers low-level waste disposal to be permanent; the Midwest Compact Commission and the MRWCC want to be able to retrieve anything that may be causing a problem. Although this issue is not yet resolved, the proposed designs allow for retrieval.)

Incentives and Compensation

The commission's package of compensation and incentives will provide "full cost reimbursement; monies for license review and site characterization; economic incentives; local participation in technology selection and facility operation; and other noneconomic incentives."

Direct compensation to the host community will include \$300,000 for site review, \$50,000 for a license application review, \$50,000 annually to support a local monitoring committee, and additional unspecified compensation for local improvements and programs.

The incentives include a facility payroll of about \$400,000 per year, an estimated additional \$800,000 annually in local spending, and the award of a surcharge on disposed waste to the community estimated at \$800,000 per year. The return to the host community and state will total more than \$65 million during the twenty-year period.

Although compensation and incentives will be specifically tailored for the host community, the model package described above and the option of negotiating for special situations will be available to the host community, whether it volunteers or is selected.

As mentioned, the commission's plans and proposals are being presented in meetings involving state and local officials and the public throughout the seven-state region. Preliminary reports suggest that some of the meetings are having the desired effect, which is to address key concerns and help community leaders understand what would be involved in hosting the facility. Communities are expressing interest and asking for more details. Carp Lake Township in Michigan's Ontonagon County has passed a resolution indicating its willingness to consider accepting the facility, as have two communities in Wisconsin and another in Iowa. A number of communities in Minnesota and several in Indiana also reportedly are interested.

While community interest is encouraging, it is a long way from a state volunteering to host the facility; the Midwest Compact places that decision in the hands of the state, not local communities. It is extremely unlikely, given the political volatility of inviting a low-level waste facility into a state, that any governor and legislature will volunteer. Of greater significance is whether the state selected will carry out the obligation, particularly if the designee--as expected--is Michigan.

Site Screening

Any proposed site must be screened as to suitability. So far, the Midwest Compact commission has considered only the broadly defined screening factors included in the federal regulations: minimum distances from groundwater and groundwater recharge (refill) zones; avoidance of earthquake and flooding zones; and avoidance of present and future population centers and historic and recreational locations.

To sharpen the screening and selection criteria and invoke operational and other requirements more stringent than the federal standard, the MRWCC drafted legislation (Senate Bill 65) to

- designate the Michigan Department of Public Health (MDPH) as the lead state agency with regard to low-level radioactive waste management;
- create a siting board consisting of the existing MRWCC members plus four others appointed by the governor who would represent the Michigan Townships Association, the Michigan Association of Counties, and two environmental groups;
- provide specific site selection criteria;
- provide a process for site selection and evaluation of volunteer sites;
- authorize the MDPH to establish standards for operating, maintaining, and monitoring the facility;
- provide for regulation of low-level radioactive waste transport; and
- set requirements for liability insurance coverage.

While consideration of this legislation is essential to move the process along, much remains to be done. Most of the siting criteria in the bill are expressed conceptually instead of specifically. For example, the bill now says: "A site shall not be located within ___ miles of a major river, within ___ miles of an inland lake of a size greater than ___ acres, or within ___ miles of a Great Lakes shore land."

Appropriate Action

In only a few months the federal deadline for selecting a host state will expire. (The earlier June 30 target date was voluntarily set by the Midwest Compact commission.) The federal government does not appear to be backing off the deadlines or the policies set forth in the 1980 act, despite the fact that the process now under way could lead to the development of fourteen or fifteen low-level disposal sites across the nation; only three or four probably are needed or are financially feasible in view of projections that future waste volumes may be lower than originally thought.

Michigan leaders have tough political and policy choices to make. If Michigan decides to pull out of the Midwest Compact, it will be forced to deal with its own low-level wastes for the foreseeable future, with no attendant financial support from other states or the federal government. If Michigan continues to be a member of the Midwest Compact, it is likely to be selected as the host for the repository of low-level waste for the next twenty years.

Given the fact that the compact process has been under way since 1982, the Blanchard administration's recent questioning of its efficacy seems more rooted in political response than in policy considerations.

There are legitimate concerns about the program as mandated by Congress. Of particular importance are questions related to the number of facilities truly needed and the availability of liability insurance for the disposal sites. These issues can only be addressed by Congress. However, adopting the posture that the entire burden of response to the problem lies with the federal government ignores state responsibility in the decisions that generated the wastes. The attitude also is risky in the long run because it invites direct federal control of a matter that might best be resolved through cooperative relationships among states.

Society made the judgment that it is appropriate to use nuclear power to generate electricity. Society chose to use nuclear materials in medicine to preserve human life. And society--including Michigan residents and the elected officials who represent them--must face the harsh reality that a consequence of technological advance is a responsibility to deal with wastes.