

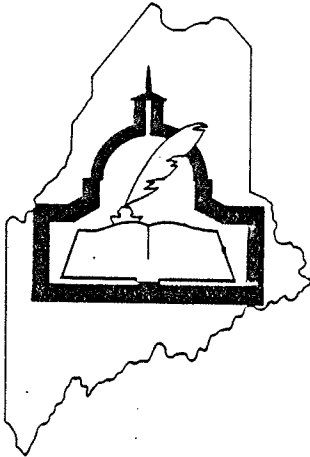
MAINE STATE LEGISLATURE

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MAINE LOW-LEVEL RADIOACTIVE WASTE
SITING COMMISSION



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STATUS REPORT OF THE COMMISSION
TO THE GOVERNOR AND THE LEGISLATURE

December, 14, 1982

This is a brief update of the June 21, 1982 interim report of the Commission. A full report will be presented early in 1983, but because of the great public interest in this subject the Commission feels that an update now would be useful.

Under federal law, by 1986 Maine must find a place for its low level radioactive waste (LLW). The site in South Carolina that has been used in the past will probably be restricted to waste from the states in the southeast region.

The Low Level Waste Siting Commission was established in 1981 by State law to study the options and report to the Governor and the Legislature in time to guide developing State policy. No conclusions have been reached yet, but the following options are being studied:

- (1) A Northeast Regional compact;
- (2) A smaller regional compact--possibly New England or Northern New England;
- (3) A site in Maine for our own use only;
- (4) Volume reduction and on-site storage at Maine Yankee for the life of the plant;
- (5) Contract with a site in another compact region.

Northeast Regional Compact

Discussions have been proceeding, under the auspices of the Coalition of Northeastern Governors, including the 11 states from Maine to Delaware. A draft compact is expected to be available in January, 1983. The key issue is host state selection, which has not yet been decided. One possibility of special interest would be a threshold provision: states, like Maine, with less than 3 percent of the waste generation would not be considered as host states.

Waste volume in this region would be large, about 1.1 million cubic feet per year, which is 40% of the LLW generation in the entire country. Each state annually produces the following volume of waste (a cubic meter is 35.3 cubic feet, about a cubic yard):

State	Volume (cubic feet)	Volume (cubic meters)	Percent of Northeast Regional Total
Pennsylvania	250,000	7,200	23.3%
New York	240,000	6,800	22.0%
Massachusetts	230,000	6,600	21.2%
Connecticut	140,000	3,700	11.9%
New Jersey	130,000	3,600	11.7%
Maryland	46,000	1,300	4.2%
Rhode Island	28,000	800	2.6%
Vermont	16,000	450	1.5%
Maine	15,000	400	1.4%
Delaware	3,000	80	0.2%
New Hampshire	1,200	30	0.1%

The site for such a region would be comparable to the present commercial site in Barnwell, South Carolina. That has been operating in a relatively humid part of the country for 11 years, with no significant environmental problems. However, it appears that the people of Maine would have to be convinced before they would accept a disposal site for the waste from such a large region.

Massachusetts will be interesting to watch. They are a large generator. Nearly two-thirds of their generation is from industrial, medical and research facilities, while the rest is from nuclear power. This fall, by referendum, they enacted a law that requires approval by referendum of any facility within the State for disposal or storage of low level radioactive waste and of any regional compact dealing with LLW. In addition, the Legislature must find that the technology and the site are superior to the alternatives, and, in the case of a compact, that the responsibilities of the State are no greater than those of any other party.

Smaller Regional Compact

The possibility of a Northern New England regional compact can also be considered. Some preliminary discussions have been held with New Hampshire and Vermont, in case the terms of the

larger regional compact are unattractive. Such a compact would have the advantage that all the states generate comparable amounts of waste, and the added advantage of short transportation distances.

One problem with a smaller site would be higher costs, because certain front end costs such as licensing and siting are not strongly dependent on site size. The U. S. Department of Energy's preliminary assessment is that a small site would be at least ten times as expensive per unit waste volume as a large site. In Maine, the Department of Environmental Protection and the Office of Legislative Assistants are doing preliminary studies of the economic viability of a small site, in order to see if these costs can be reduced significantly, and to put them in perspective with the costs of the full cycle, including waste preparation and transportation, as well as disposal.

Maine-only site

The option of going it alone is also available. From a national perspective, the federal government has asserted that regional sites are preferable to each state going it alone, for environmental and economic reasons. However, this must be weighed against the political problems and added transportation resulting from a regional solution. Existing federal studies are focused primarily on a large site, although the numbers are sometimes scaled to a small site too. The Commission is looking at creative approaches to a small site, such as seasonal operation, or collocation with a major generator of waste. The technical work for a Northern New England site could easily be extended to a Maine-only site. A preliminary evaluation is anticipated in December or January.

On-Site Storage

Maine Yankee generates almost all of the LLW in Maine that is now shipped out of state. This suggests the possibility of on-site storage. Although the site is not suitable for shallow land burial, the possibility of an engineered structure exists. Unfortunately, the U.S. Nuclear Regulatory Commission has not issued detailed regulations, so it is difficult to evaluate this possibility. Also, at present, NRC guidelines only allow on-site storage for 5 years, while the remaining life of the plant is planned to be 20-25 years. At that time, there will be approximately 17,000 cubic meters of additional waste from decommissioning the plant. The Commission is seeking additional information on the possibility of on-site storage.

Contract with another Region

It seems premature to discuss this possibility until the Northwest or Southeast compact is ratified by Congress, presumably in 1983. These are the regions with existing sites. Politically, it may be difficult for them to accept out-of-region waste for some time, because they have just made the case that they should not be the disposal ground for the nation. However, particularly in the case of Hanford, they may have unused capacity that they could sell if they wish. In addition California and Texas are going it alone, and could be approached.

Geological Characterization

In accordance with the same law that established the Commission, the Maine Geological Survey has conducted a geologic screening study to eliminate areas not favorable for a Low Level Radioactive Waste disposal site, and identify areas suitable for more detailed study.

The criteria, from NRC's regulations for shallow land burial, are:

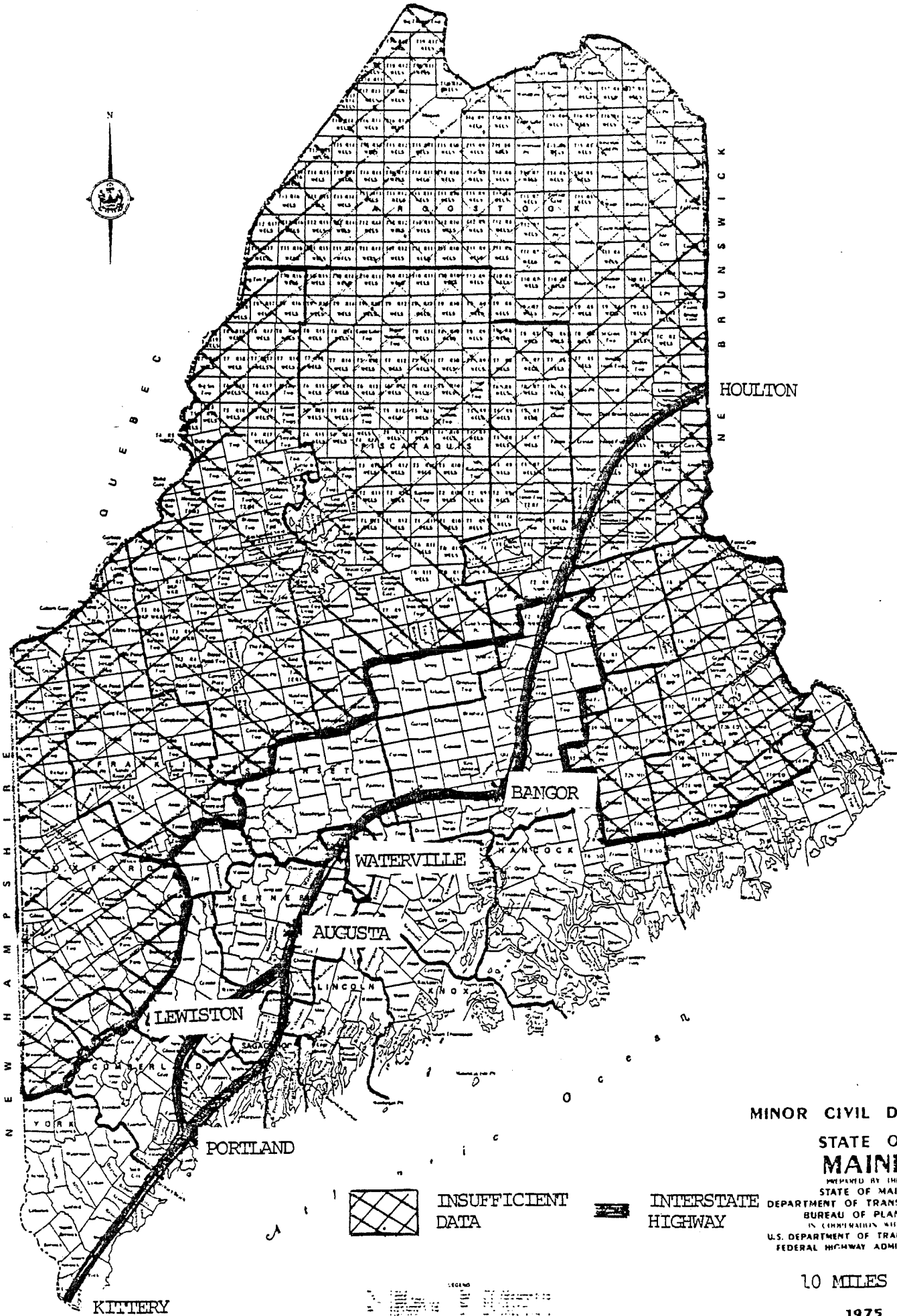
- (1) Outside 100 year flood plain;
- (2) At least 50 feet of overburden;
- (3) Away from high-yield bedrock aquifers;
- (4) Away from sand and gravel aquifers.

That study, released on November 4, 1982, does not give a full screening of the State for shallow-land burial sites because only marine silt and clay regions were studied. These are in a strip about 60 miles wide along the coast, about one-third the area of the state

The other two-thirds of the state was not screened. A full screening would require a survey of the rest of the state for basal and lodgement till soils suitable for LLW disposal. This would be difficult because they are quite scattered, and there is insufficient basic geological data.

In the area surveyed, many towns had at least one area that is geologically suitable for a low-level waste burial site. These are generally located in a strip about 10 miles back from the coast, from Kittery as far east as Machias, and up the river valleys of the Androscoggin, Kennebec, and Penobscot. The detailed results of the geological study are presented in maps, which are available in several large libraries around the State, or at the Maine Geological Survey.

It is important to note that a full screening, in addition to geological characterization, would require socio-economic screening. This would screen out areas with high population, with special natural or other resources, and areas without adequate highways, for example. According to estimates supplied by the State Planning Office, it would cost about \$14,000 to conduct such a study. The Commission is considering whether to proceed with all or part of it. In the absence of socio-economic screening, it is important not to give too much weight to the geological screening alone.



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HOULTON

BANGOR

WATERVILLE

AUGUSTA

LEWISTON

PORTLAND

KITTERY

MINOR CIVIL DIVISIONS

STATE OF MAINE

PREPARED BY THE
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION



INSUFFICIENT DATA



INTERSTATE HIGHWAY

10 MILES

1975