



Minnesota Pollution Control Agency

Report to the Legislature:
**Activities of the Midwest
Interstate Low-Level
Radioactive Waste
Compact Commission
2007-2008**

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Activities of the Midwest Interstate Low-Level Radioactive Waste Compact Commission, 2007-2008

Biennial Report

Prepared by

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Background and History

The Low-Level Radioactive Waste Policy Act of 1980 allowed existing disposal facilities to close their doors to generators of low-level radioactive waste (LLRW) nationwide in 1994 with the intention that this would provide an incentive to states and groupings of states to become self-sufficient by developing their own disposal facilities. At the time there were three facilities receiving LLRW from businesses and institutions (“generators”) nationwide. These were located at Barnwell, South Carolina; Richland, Washington; and Beatty, Nevada.

Congress also authorized a nationwide system of interstate compacts under the law. Minnesota and six other Midwest states joined in 1983 to form the Midwest Interstate Low-Level Radioactive Waste Compact (“Midwest Compact”) which would construct and operate a regional LLRW disposal facility. A state law designated the Commissioner of the Minnesota Pollution Control Agency (MPCA) as the state’s representative on the Midwest Compact Commission. This responsibility has been delegated to the deputy commissioner of the MPCA.

To support the efforts for a reliable disposal system, the U.S. Department of Energy levied surcharges during the 1980s and 1990s on companies and institutions disposing of LLRW, with the bulk of the cost falling on electric utilities using nuclear reactors for power generation. The Midwest Compact received several million dollars from surcharges on waste disposal, using these funds to cover ongoing expenses of the Commission. The Midwest Compact also accumulated surcharges from the region’s nuclear utilities, including Northern States Power, to be earmarked for site development activities only.

Michigan was selected as the first host state for the Midwest Compact’s regional disposal facility, but was expelled from the Midwest Compact in 1991 for failure to fulfill its obligations to proceed in establishing a facility. This left six states in the Midwest Compact, and Ohio was selected as host state. Ohio began its site development process, introducing facility siting legislation and negotiating compact amendments with other states in the ensuing years. Ohio adopted the legislation and associated compact amendments in 1995. Minnesota incorporated the compact amendments and related statutory changes into state law during the 1996 legislative session (H.F. 2207, Chapter 428), as did the other Midwest Compact states during 1996 and 1997. During this time, Ohio proceeded to set up a facility development authority and began site screening activities. Ohio projected a disposal facility to be operational by 2005.

As expected, on July 1, 1994, the Midwest Compact states lost access to LLRW disposal facilities. One year later, however, the Barnwell, South Carolina, facility unexpectedly reopened to LLRW generators nationwide. (See the next section for current and near-term availability of disposal options for generators in Midwest Compact states.)

As a result, the pressure on states and Midwest Compacts to develop their own facilities diminished greatly after Barnwell’s reopening for out-of-state disposal in 1995. In 1997 the Commission suspended its efforts to site an LLRW disposal facility in the six-state Midwest Compact region.

Minnesota remains a member of the Midwest Compact. This is the sixth biennial report required by the 1996 amendments to Minn. Stat. 116C.833, subdivision 2, covering the activities of the Midwest Compact Commission.

Low-Level Radioactive Waste - the Background

Radioactive waste is an extremely broad set of materials, of which LLRW is only one portion.

Regulated LLRW is discarded material with artificial radioactivity that does not fall in certain categories. LLRW is not high-level radioactive waste, which is waste produced by nuclear reactor fuel usage; it is not waste that has more than certain quantities of elements that are higher in the periodic table than uranium, and it is not uranium-ore mill residues.

Typical wastes commonly disposed as LLRW include:

- Plastic pellets used for water treatment in nuclear power plants;
- Cleaning supplies such as mops and rags;
- Discarded equipment, tools, and building rubble;
- Discarded clothing such as gloves, shoe covers, and lab coats; and
- Filter media and fluids.

LLRW is made up of four classes under federal regulations, which are listed in order of the length of time that the material needs to be isolated from the environment. This is usually denoted in terms of its half-life. (A “half-life” is a measure of the longevity of a radiation source. If a source has a half-life of five years, the intensity of radiation emitted from that source drops by 50% each five years.)

- Class A wastes: Suited for near-surface burial. Radioactivity is the lowest among all LLRW classes. Most of the radionuclides have half-lives less than five years. Disposal facilities are privately operated.
- Class B wastes: Suited for near-surface burial but requires more environmental confinement than Class A. Radioactivity has a higher concentration than Class A and more of the radionuclides have half-lives over five years. Disposal facilities are privately operated.
- Class C wastes: Suitable for near-surface burial but will have more confinement and for longer periods than Class B. Radioactivity levels are higher than Class B. Disposal facilities are privately operated.

Any LLRW that arises from defense activities is handled by the U.S. Department of Energy, and is not part of the Midwest Compact Commission's purview nor of its member governments.

As a general rule, disposal of non-defense LLRW is the financial responsibility of the waste generator, with two exceptions. First, disposal of any “Greater than Class C” LLRW is handled by the U.S. Department of Energy exclusively. Disposal must be in a geologic repository, which currently is the Waste Isolation Pilot Project near Carlsbad, New Mexico. Second, the National Nuclear Security Administration offers a free-of-charge disposal option for all sealed sources that emit beta and gamma radiation.

Currently, there are less than 15 actual or potential generators of LLRW in Minnesota. In any given year fewer than five generators ship more than 100 cubic feet per year of LLRW, the

threshold at which a state fee is due the MPCA. The other generators ship none at all or else very small quantities of LLRW for disposal. Based on annual fee statements, the total quantity of LLRW shipped from Minnesota non-defense generators for disposal or processing in the last two reporting years is as follows.

	Cubic feet
2006	8,288
2007	12,094
Total	20,382

The national trend has been toward less LLRW volume due to compaction, and toward fewer LLRW generators who need to ship waste for disposal. Some firms and institutions that once generated LLRW do not use radioactive sources now, and others have shifted to very short-lived radioisotopes, which if stored will decay below regulated levels.

Minnesota generators have the capability to safely store LLRW at their location for at least three years, and in some cases for more than 10 years. Private vendors also provide storage services. Therefore, over the short- to medium-term, the impact of a Barnwell closure to "B" and "C" wastes will most likely be accommodated by the current system.

LLRW Disposal Options Relating to the Midwest Compact

There are three operating disposal facilities for civilian LLRW in the U.S., one of which is now available to Minnesotans.

The U.S. Ecology disposal facility in Richland, Washington, accepts Class A, B, and C wastes, but only from states in the Northwest and Rocky Mountain Midwest Compacts.

Until July 1, 2008, Energy Solutions Barnwell Operations at Barnwell, S.C., accepted Class A, B, and C wastes from 39 states, including the six Midwest Compact states. Through that date, Barnwell had been the disposal destination for Class B and C wastes shipped from Minnesota businesses and institutions. No other facility in the United States accepts such waste from Minnesota. As of July 1, 2008, the state of South Carolina banned low-level radioactive waste other than from South Carolina generators and from the two other states belonging to its interstate compact, the Atlantic Compact (Connecticut and New Jersey).

The third U.S. facility for LLRW is Energy Solutions Clive Operations, near Clive, Utah. It has disposed more than 140 million cubic feet Class A LLRW since 1991 and if current discussions continue as expected, it has an equivalent amount of disposal airspace remaining for Class A waste. Measured by volume, most of Minnesota's LLRW generation went to this facility during 2007 and 2008.

A fourth facility (Waste Control Specialists, in Andrews County, Texas) is the process of being licensed. The draft license would allow disposal of Class A, B, and C wastes, but only from generators in Texas and Vermont, which form a compact, so its status has no direct effect on the Midwest Compact members.

To summarize, the disposal situation is as follows for LLRW originating in the six Midwest Compact states:

- For Class A wastes: adequate space is available for another decade or more at Energy Solutions in Clive, Utah.
- For Class B and C wastes: Had been going to Energy Solutions in Barnwell, S.C., but after July 1, 2008, generators in Minnesota and 35 other states switched to interim measures: storage at the generator's location or shipment to commercial storage and processing companies.
- For "Greater than Class C" wastes: the U.S. Department of Energy accepts these wastes.

Midwest Compact Activities in 2007-2008

With the demise of the facility siting program originally tasked to each interstate compact, the main purpose of the Midwest Compact Commission is to track national and regional LLRW developments in order to ensure continuing access to disposal for LLRW generators who are located in the Midwest Compact states.

The Midwest Compact Commission and its member states rely on information provided by the Low-Level Radioactive Waste Forum, a national organization of officials representing compacts and states. The Midwest Compact Commission pays membership fees for access to the Forum's regular updates. The website of the compact commission is www.midwestcompact.org.

MPCA will continue to track disposal availability issues affecting Minnesota generators, particularly those relating to interim solutions for Class B and C wastes. MPCA staff will remain active participants in the Midwest Compact Commission and will continue tracking national LLRW-related developments. Minnesota's member on the compact commission is MPCA Commissioner Paul Eger. MPCA staff member Jim Chiles is his alternate.

Appendix

Selected Statutes and Laws Pertinent to the Midwest Compact

116C.833

116C.833 Midwest Compact commission member.

Subdivision 1. Commissioner. The commissioner of the Pollution Control Agency shall serve as Minnesota's voting member of the Interstate Commission. The commissioner shall tender the state's membership fee to the Interstate Commission by August 1, 1983, or, if the commission has not come into existence by August 1, 1983, when the first meeting of the commission is convened as provided in the Midwest Compact.

Subd. 2. Biennial report. In addition to other duties specified in sections 116C.833 to 116C.843, the commissioner shall report by January 31, 1997, and biennially thereafter, to the governor and the legislature concerning the activities of the Interstate Commission. The report shall include any recommendations the commissioner deems necessary to assure the protection of the interest of the state in the proper functioning of the Midwest Compact. The commissioner also shall report to the governor and the legislature any time there is a change in the status of a host state or other party states in the Midwest Compact.

HIST: 1983 c 353 s 3; 1987 c 186 s 15; 1996 c 428 s 4

For more information on the Compact Commission, contact Jim Chiles at (651) 757-2272 at the Minnesota Pollution Control Agency or via electronic mail at jim.chiles@state.mn.us.

The MPCA may be contacted at (651) 296-6300, toll-free/TDD at (800) 657-3864, or through the MPCA's web site at <http://www.pca.state.mn.us>.

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