

# Activities of the Midwest Interstate Low-Level Radioactive Waste Compact Commission

2009-2010 Biennial Report



Minnesota Pollution Control Agency

January 2011

## Legislative Charge

*Minn. Statutes § 116C.833*

*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.*

## History:

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

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## Minnesota Pollution Control Agency

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# Summary

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Minnesota remains a member of the Midwest Interstate Low-Level Radioactive Waste Compact, and no substantive changes in the six-state compact have occurred since the last biennial report. This is the seventh biennial report required by 1996 amendments to Minn. Stat. 116C.833, subdivision 2.

## Background

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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.

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.

As a result, the pressure on states and the Midwest Compact to develop their own facilities diminished greatly. In 1997, the commission suspended its efforts to site an LLRW disposal facility in the six-state Midwest Compact region. There are no current plans to site such a facility in the states belonging to the Midwest Compact.

## Low-level radioactive waste types

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 of 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.
- 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.
- **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.
- **“Greater than Class C” wastes:** 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. The National Nuclear Security Administration also offers a free-of-charge disposal option for all sealed sources that emit beta and gamma radiation.

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. Generally speaking, disposal of non-defense LLRW is the financial responsibility of the waste generator.

Currently, there are nine 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 very small quantities of LLRW for disposal. The total volume of LLRW shipped from Minnesota non-defense generators for disposal was less than 10,000 cubic feet in 2009, the most recent reporting year. This is about the capacity volume of three semi-trailer trucks.

The national trend has been toward less LLRW volume due to source reduction and 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 store LLRW safely at their locations for several 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 from Minnesota and other states has been accommodated by storage and volume reduction within the current regulated system.

# Activities and Status

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There are three operating disposal facilities for civilian LLRW in the United States. A fourth, in Andrews County, Texas, is under construction. Only one is available to Minnesotans, and for a single class of low-level radioactive wastes.

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, South Carolina., accepted Class A, B, and C wastes from 39 states, including the six Midwest Compact states. Through that date, Barnwell had been the only disposal destination available for Class B and C wastes shipped from Minnesota businesses and institutions. After July 1, 2008, the state of South Carolina banned low-level radioactive waste other than that originating with South Carolina generators and from the two other states belonging to its interstate compact, the Atlantic Compact (Connecticut and New Jersey). This action by South Carolina has withstood legal challenges from other states and compacts.

The third U.S. facility for LLRW is Energy Solutions Clive Operations, near Clive, Utah. This accepts Class A wastes from Minnesota generators.

A fourth facility (Waste Control Specialists, in Andrews County, Texas) is under construction. Barring some change, its status is expected to have no effect on LLRW generators in the Midwest Compact member states since it will accept LLRW only from generators in Vermont and Texas.

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

- **Class A wastes:** Adequate space is available for the near term at Energy Solutions in Clive, Utah.
- **Class B and C wastes:** Generators in Minnesota and 35 other states are relying on interim measures: storage at the generator's location or shipment to commercial storage and processing companies.
- **"Greater than Class C" wastes:** The U.S. Department of Energy accepts these wastes.

## Midwest Compact activities

With the demise of the facility siting program originally tasked to each interstate compact, the main purpose of the Midwest Compact Commission ([www.midwestcompact.org](http://www.midwestcompact.org)) 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 publications and meetings.

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 Deputy Commissioner Tim Scherkenbach. MPCA staff member Jim Chiles serves as alternate.

# Appendix: Selected Statutes Pertinent to the Midwest Compact

(Source: 2010 Minnesota Statutes)

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## 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.

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