

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

2011-2012 Biennial Report



Minnesota Pollution Control Agency

January 2013

Legislative Charge

Minn. Statutes § 116C.833

Subd. 2. In addition to other duties specified in sections 116C.833 to 116C.843, the commissioner shall report by January 31, 2013, and every four years 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 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 compact.

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Summary

This is the eighth biennial report required by 1996 amendments to Minn. Stat. Statutes § 116C.833, subdivision 2. 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 biennial report in 2010.

The next report is due in 2017 because the Minnesota Legislature changed the reporting interval from biennial to quadrennial, beginning with this report's 2013 delivery date.

Background

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 non-defense LLRW originating from businesses and institutions ("generators") nationwide. These were located in South Carolina, Washington, and 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 in one of the member states. A state law designated the commissioner of the Minnesota Pollution Control Agency (MPCA) as the state's representative on the Midwest Compact Commission.

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.

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 set up a facility development authority and began site screening activities.

However, as a result of the Barnwell, S.C., facility's availability to Midwest LLRW generators, the pressure on states and the Midwest Compact to develop their own facilities diminished. 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 disposal facility in the states belonging to the Midwest Compact, so LLRW disposal depends on access to facilities outside the compact states.

Low-level radioactive waste types

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; and
- Filter media and fluids

It is important to note that radioactive waste is an extremely broad category of materials, of which LLRW is only one portion. By law, 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.

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.
- **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.
- **“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.

Generally speaking, disposal of Class A, B, and C low-level radioactive waste is the financial responsibility of the waste generator, unless it was a residue from defense activities. Any LLRW that arises from defense activities is managed by the U.S. Department of Energy, and is not part of the Midwest Compact Commission’s purview nor of its member governments.

Activities and Status

In any given year, fewer than five generators in Minnesota ship more than 100 cubic feet per year of LLRW, which is the threshold at which a state fee is due the MPCA. As of late 2012, Minnesota-based generators of LLRW had the following management options:

- Store on site, in compliance with their license;
- Ship for treatment and storage;
- Land disposal (Class A is accepted at EnergySolutions near Clive, Utah; Classes A, B, and C have some access to disposal at Waste Control Specialists in Andrews County, Texas)

The diminishing number of LLRW generators in Minnesota is consistent with the national trend toward lower volumes of LLRW generated each year due to source reduction and compaction, and toward a shorter list of LLRW generators who need to ship any 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 after use, will quickly decay below regulated levels while in storage. These isotopes are created on-site with the use of accelerators.

There are four disposal facilities that receive civilian LLRW in the United States, two of which offer some disposal capacity to Minnesota LLRW generators either directly or through processors.

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. During that period, Barnwell was the only disposal destination available for Class B and C wastes shipped from Minnesota generators. After July 1, 2008, the state of South Carolina banned low-level radioactive waste other than that originating from South Carolina, Connecticut, and New Jersey. Following Barnwell's closure, the only disposal option for generators in Minnesota was for Class A wastes, at EnergySolutions in Clive, Utah. The Clive facility continues to accept Class A wastes from generators located in Minnesota and elsewhere.

In 2012, Waste Control Specialists opened a disposal facility in Andrews County, Texas, and began accepting LLRW Classes A, B, and C from American generators outside the Texas-Vermont Compact. The annual capacity available to generators outside the Texas-Vermont Compact is capped by state law as to volume and radioactivity. (Because of economics, Waste Control Specialists is receiving little Class A LLRW, which continues to flow to EnergySolutions in Utah.)

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.

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) 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 disposal access for Class B and C wastes, which currently depends on the single option of access as "imported" waste to the Waste Control Specialists facility in Andrews County, Texas. 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 John Linc Stine. MPCA staff member Jim Chiles serves as alternate.

Appendix: Reporting Statute

Source: 2012 Minnesota Statutes

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 compact.

Subd. 2. Quadrennial report. In addition to other duties specified in sections 116C.833 to 116C.843, the commissioner shall report by January 31, 2013, and every four years 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 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 compact.

History: 1983 c 353 s 3; 1987 c 186 s 15; 1996 c 428 s 4; 2012 c 272 s 75