



Minnesota Pollution Control Agency

Report to the Legislature:
**Activities of the Midwest
Interstate Low-Level
Radioactive Waste
Compact Commission
2003-2004**

Estimated Cost of Report Preparation

15 Hours of Staff Time	\$750.00
Duplication Cost for 80 copies	<u>\$80.00</u>
TOTAL	\$830.00

*Printed on recycled paper containing
at least 20 percent fibers from paper recycled by consumers.*

Activities of the Midwest Interstate Low-Level Radioactive Waste Compact Commission, 2003-2004

Biennial Report

Prepared by

**Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194
(651) 296-6300
1-800-657-3864
TTY: 651-282-5332**

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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 (“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 Compact Commission. This responsibility has been delegated to senior staff of the Agency.

To support these efforts, 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 Compact received several million dollars from surcharges on waste disposal, using these funds to cover ongoing expenses of the Commission. The 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 Compact’s regional disposal facility, but was expelled from the Compact in 1991, for failure to fulfill its obligations to proceed in establishing a facility. This left six states in the 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 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 scheduled, 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 Compact states.)

As a result, the pressure on states and compacts to develop their own facilities diminished greatly. In 1997, the Commission suspended its efforts to site an LLRW disposal facility in the six-state compact region. The Compact Commission cited three reasons for halting site development activities:

- Dwindling volumes of LLRW produced from the Compact states;
- Continued access to existing disposal facilities outside the Compact; and
- The high cost of developing a new facility.

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

LLRW and Current Disposal Status

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

At its most basic, LLRW is discarded material with artificial radioactivity that does not fall in any of the following three 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 mill residues.

Typical wastes 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.

Under federal regulations, LLRW is made up of four classes, which are listed in ascending order of intensity and as to how long the material needs to be isolated from the environment. (Note: a “half-life” is a measure of the durability of a radiation source. If a source has a half-life of five years, the intensity of radiation emitted drops by half each five years.)

- Class A wastes: Suited for near-surface burial. Radioactivity is the lowest among all LLRW classes and 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: Acceptable 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: Not suited for near-surface burial, for reasons of safety and security. Includes sealed sources of radioactivity used in industry and medicine. Disposal is by the U.S. Department of Energy exclusively, and must be in a geologic repository.

Currently, there are 14 actual or potential generators of LLRW in Minnesota. Two accumulate and routinely ship more than 100 cubic feet per year of LLRW, the threshold at which a state fee is due the MPCA. The rest are hospitals, research labs, and businesses that ship small quantities of LLRW for disposal on an infrequent basis. The total of LLRW shipped from Minnesota generators who were subject to the state fee was less than 3,400 cubic feet in calendar year 2004.

Among such generators, the trend is toward less waste due to compaction and toward fewer LLRW generators needing to ship waste. Some do not use radioactive sources at all now, and others have shifted to low-half-life radioisotopes, which if stored will decay below regulated levels.

Minnesota generators have the capability to safely store LLRW onsite for at least three years and in some cases for more than ten years. Private vendors could provide storage services past this point. Therefore, at least in the short- to medium-term, the impact of a Barnwell closure can be accommodated in Minnesota.

Currently, generators of LLRW in Minnesota are regulated by the Nuclear Regulatory Commission (NRC). It is expected that as of September 7, 2005, users of radioactive materials in Minnesota (other than federal institutions and federally-regulated companies such as nuclear power plants) will be regulated by the Minnesota Department of Health, which recently completed the necessary rulemaking and notification to the NRC.

LLRW Disposal Options Relating to the Compact

There are three operating LLRW disposal facilities; a fourth facility is seeking approval to operate in Texas.

The Richland facility in Hanford, Washington, accepts Class A, B and C wastes, but only from states in the Northwest and Rocky Mountain Compacts.

Barnwell is open for disposal of Class B and C wastes from 39 states, including the six Compact states. Because Barnwell fees are levied per cubic foot, the relatively voluminous but low-radiation Class A waste is disposed elsewhere.

The third operating facility for LLRW in the United States is Envirocare, located in Clive, Utah. It has been licensed for disposal of Class A LLRW since 1991. While it has also been licensed by the Utah Department of Environmental Quality to accept Class B and C wastes, the acceptance of Class B and C would require (in addition to the license) specific approval by the governor and Utah Legislature, and this has not occurred. The state convened a task force to consider the issue. The task force issued a final report in November 2004, that did not recommend that the Governor and Legislature proceed with approval of Class B and C disposal, Utah produces very little of such waste, However, the state has not legislated a ban on Class B and C disposal either and the issue will receive further legislative attention.

A study by the General Accounting Office published in June 2004; concluded that: (1) the regulations and laws covering LLRW are complex; (2) there is enough disposal space nationally through 2008, but availability is uncertain beyond that point; and (3) Congress should consider directing the Nuclear Regulatory Commission to notify Congress if the disposal and storage outlook for LLRW suggests a need for federal action.

Taking these developments together, the prospects are as follows for LLRW generated in the six Compact states:

- For Class A wastes: adequate space is available for at least 10-20 years at Envirocare.
- For Class B and C wastes: space is available to Compact states at Barnwell, S.C., but only to 2008. Past that point, according to laws currently in effect, disposal is not available for such material produced from Compact states. However, storage and waste reduction could manage the situation for several years. Some generators have adequate storage on site, and other generators would have to use vendors for storage services. While Envirocare has space for such Class B and C wastes, legislative and executive action would be needed in Utah.
- For “Greater than Class C” wastes: the U.S. Department of Energy accepts these wastes currently for storage. Permanent disposal is expected at the Waste Isolation Pilot Project near Carlsbad, N.M.

Compact Activities in 2003-2004

With the demise of the facility siting program, the main purpose of the Commission is to track national and regional LLRW developments in order to ensure continuing access to disposal for LLRW generators located in the Compact states.

The six state members of the Compact agreed in 2004, to provide \$25,000 in funding to support the second phase of a study by the National Academy of Sciences to make recommendations in reforming the regulation of LLRW. The charge for this study is: “Provide an assessment of technical and policy options for improving practices for regulating and managing low-activity waste to enhance technical soundness, ensure continued protection of public and environmental health, and increase cost effectiveness. This assessment should include an examination of options for utilizing risk-informed practices for identifying, regulating, and managing low-activity waste irrespective of its classification.”

The Compact Commission and the MPCA rely on information provided by the Low Level Waste Forum, a national organization of officials representing compacts and states. The Compact Commission pays membership fees for access to the Forum’s regular updates.

MPCA will continue to track disposal availability issues that may affect Minnesota generators. MPCA will continue to monitor developments to ensure that perspectives and concerns of Minnesota generators are brought to regional and national policy forums and to the extent possible, to see that our generators’ LLRW disposal needs are met into the foreseeable future. MPCA staff will remain active participants in the Midwest Compact Commission and will continue tracking national LLRW-related developments.

Appendix

Selected Statutes and Laws Pertinent to the Midwest Compact (Source: Minnesota Statutes 2004)

116C.833

116C.833 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. 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 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.

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



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For more information on the Compact Commission, contact Jim Chiles at (651) 296-7273 at the Minnesota Pollution Control Agency or via electronic mail at james.chiles@pca.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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