



STATE OF MICHIGAN
 DEPARTMENT OF
 ENVIRONMENT, GREAT LAKES, AND ENERGY
 LANSING




GRETCHEN WHITMER
 GOVERNOR

LIESL EICHLER CLARK
 DIRECTOR

VIA E-MAIL

TO: Governor Gretchen Whitmer
 Senate Environmental Quality Committee Members
 Senate Natural Resources Committee Members
 House Natural Resources and Outdoor Recreation Committee Members

FROM: Liesl Eichler Clark, Director 

DATE: November 30, 2020

SUBJECT: Report on the Low-Level Radioactive Waste 2019 Survey

In accordance with Section 18a of the Low-Level Radioactive Waste Authority Act, 1987 PA 204, as amended, generators of low-level radioactive waste (LLRW) are required to report annually to the Department of Environment, Great Lakes, and Energy (EGLE), Low-Level Radioactive Waste Authority, certain information on the volume, type, and activity of the LLRW produced. This report is a summary of the information submitted by generators for waste generated in calendar year 2019.

Summary:

Twenty-two facilities reported that they generated waste requiring off-site disposal in 2019. Of the twenty-two facilities that generated waste, fourteen of them disposed of waste off-site. The following tables summarize the waste generated and disposed in 2019.

Table 1: Waste Generated and Disposed by Facility Type

Type of Facility	Number of Reporting Facilities in 2019 Generator (Disposer)	Volume of LLRW Generated in 2019 (ft ³)	Volume of LLRW Disposed in 2019 (ft ³)
Utility	3 (3)	66,486	90,431
Academic	7 (4)	1,052	1,037
Industry	9 (5)	184	163
Medical	3 (2)	47	9
Government	0 (0)	0	10
TOTAL	22 (14)	67,769	91,650

Table 2: Waste Generated and Disposed by Waste Classification

Waste Class	Number of Reporting Generator Facilities in 2019	Volume of LLRW Generated in 2019 (ft ³)
Class A	22	67,287
Class B	2	233
Class C	3	96

In 2019 all waste-reporting facilities generated Class A waste, Class B waste was generated by utilities and academic facilities, and all Class C waste was generated by utility companies.

Challenges:

Survey participants were asked what challenges they were facing in disposing of LLRW. One issue is the disposal of very low-level waste (VLLW). VLLW is the lowest of Class A LLRW, and it generally contains some residual radioactivity, including naturally occurring radionuclides, which may be safely disposed of in hazardous or municipal solid waste landfills.

Currently, VLLW must be disposed of in a licensed low-level waste facility, of which there are only four in the United States. Generators may submit an application for an alternative disposal option for VLLW. Such alternative disposal methods are approved on a case-by-case basis. Consumers Energy used this method to dispose of non-impacted concrete and other building material from the Big Rock Point facility at a Type II landfill. The United States Nuclear Regulatory Commission is exploring the possibility of reinterpreting the approval method for this type of alternative disposal. This would allow individual landfills to undergo an extensive evaluation to be permitted to accept VLLW, without having the generator go through the case-by-case approval process.

Historical Trends:

Figures 1 through 3 show the changes in disposal of LLRW over time.

Figure 1 shows the annual volume of LLRW disposed since 1980. The spikes in LLRW disposal are from the decommissioning activities at Consumers Energy’s Big Rock Point Nuclear Power Plant from 2005 to 2007 and DTE Energy’s Enrico Fermi Nuclear Generating Station, Unit 1, in 2009. The primary generators of LLRW are utilities that operate nuclear power plants.

Figure 1: Volume of LLRW Disposed

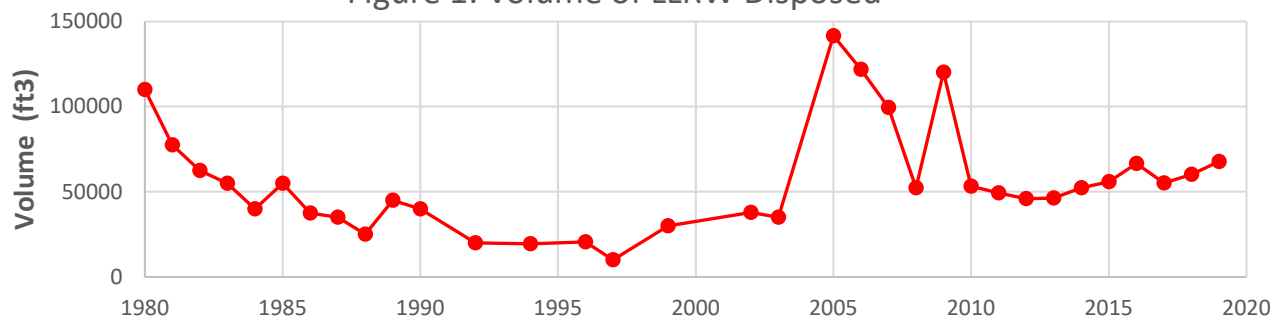
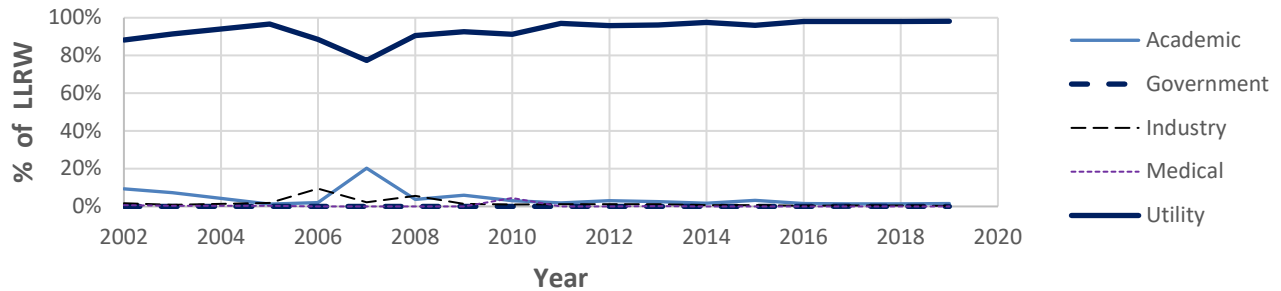
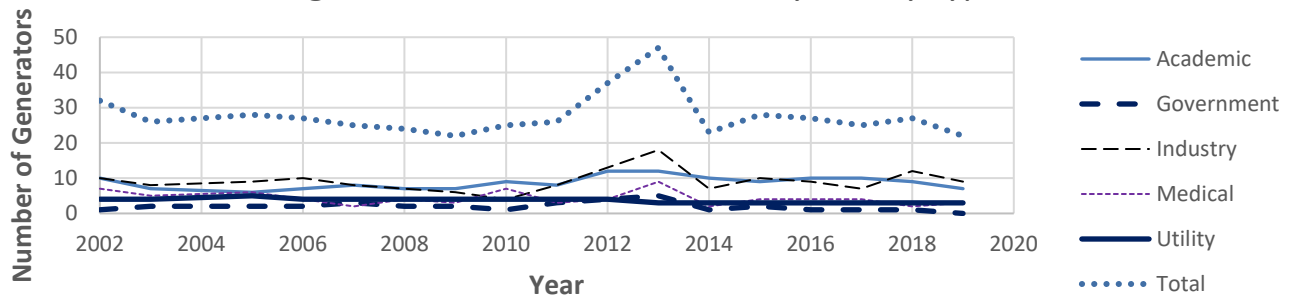


Figure 2: Percentage of LLRW Disposed by Facility Type



As shown in Figure 2, utilities have accounted for greater than 90 percent of the volume disposed in 16 of the last 17 years. The remainder is from facilities that routinely dispose of small amounts of waste and facilities needing a one-time disposal. The academic spike in 2007 was due to the decommissioning of the University of Michigan's Ford Reactor.

Figure 3: Number of Generators by Facility Type



LLRW is categorized by Classes A, B, and C, as defined in Title 10 of the Code of Federal Regulations, Part 61, Subsection 61.55. The classification of LLRW is dependent upon the waste's isotopic composition and abundance, as well as the waste's chemical and physical stability. Class A waste is usually segregated from other waste classes at the disposal site. Class B waste is subjected to stricter requirements on waste packaging to ensure stability after disposal. Class C waste must not only meet more rigorous requirements on waste packaging to ensure stability, but also requires additional measures at the disposal facility to protect against inadvertent intrusion.

If you need further information, please contact T.R. Wentworth II, Manager, Radiological Protection Section, Materials Management Division, at 517-915-8881; or you may contact me at 517-284-6708.

SUBJECT: Report on the Low-Level Radioactive Waste 2019 Survey

Page 4

November 30, 2020

cc: JoAnne Huls, Chief of Staff, Governor's Office
George W. Cook, III, Legislative Affairs Director, Governor's Office
Emily Laidlaw, Policy Director, Governor's Office
Aaron B. Keatley, Chief Deputy Director, EGLE
Amy Epkey, Senior Deputy Director, EGLE
Sarah M. Howes, Legislative Liaison, EGLE
Dale Shaw, EGLE
Elizabeth M. Browne, EGLE
Robert Jackson, EGLE
T.R. Wentworth II, EGLE