

North Carolina Low-Level Radioactive Waste Management Report Calendar Year 2007

The Radiation Protection Section in the Division of Environmental Health, N.C. Department of Environment and Natural Resources, mandates that all North Carolina low-level radioactive waste (LLRW) generators complete and submit an annual LLRW survey as a result of the Barnwell, S.C., disposal facility closures in June 2008. This facility, which no longer allows waste from North Carolina LLRW generators, prompted the creation of on-site storage for Class B and C LLRW as well as the vast majority of unwanted radioactive material in the form of sealed sources. These specific wastes pose the greatest health risk due to higher radioactivity content and cause the greatest economic impact the longer disposal is not an option.

This report is based on survey responses from the 59 North Carolina LLRW generators from January to December 2007. North Carolina has four facilities that generate Class A, B and C waste. Three of these facilities disposed of Class B and C waste during 2007. It is difficult to draw conclusions due to differing facility activities driving waste generation and disposal from year to year. Based on the survey responses, Class B and C waste, along with unwanted sealed sources, will increase in accumulation in North Carolina due to no disposal options.

The tables below offer a glimpse into North Carolina LLRW disposal history. Fortunately, North Carolina has experienced a previous Barnwell closure from 1995-2000. The 1999 table demonstrates the effect of that closure, which forced several facilities to develop on-site storage for Class B and C waste and sealed sources. The 2006 and 2007 table demonstrate the effect of using Barnwell as an option for disposal with small amounts of waste being stored on-site at generator facilities.

Calendar Year 1995 (Barnwell an Option)	Calendar Year 1999 (Barnwell Not an Option)	Calendar Year 2006 (Barnwell an Option)	Calendar Year 2007 (Barnwell an Option)
<u>Total Disposal A,B,C waste</u> 25,244 ft ³ with 3,311 Curies	<u>Total Disposal A waste</u> 30,174 ft ³ with 112 Curies	<u>Total Disposal A,B,C waste</u> 220,945 ft ³ with 97,045 Curies	<u>Total Disposal A,B,C waste</u> 103,045 ft ³ with 48,331 Curies
<i>Barnwell received >99%. Envirocare was beginning to accept Class A waste.</i>	<i>Barnwell received 0%. Envirocare received >99%.</i>	<i>Barnwell received <1 % of ft³ and >99% of Curies. Envirocare received >99% ft³</i>	<i>Barnwell received <1 % of ft³ and >99% of Curies. Envirocare received >99% ft³</i>
<u>Class B and C Disposal</u> 569 ft ³ with 3,210 Curies	<u>Class B and C Disposal</u> 0	<u>Class B and C Disposal</u> 1,500 ft ³ with 96,500 Curies	<u>Class B and C Disposal</u> 523 ft ³ with 48,074 Curies
<u>Class B and C in Storage</u> 152 ft ³ with 42 Curies	<u>Class B and C in Storage</u> 1,257 ft ³ with 1,311 Curies	<u>Class B and C in Storage</u> 58 ft ³ with 2 Curies	<u>Class B and C in Storage</u> 465 ft ³ with 283 Curies

FACTS:

- ✓ Since June 30, 2008, there is no longer an option for disposal of Class B and C low-level radioactive waste and most sealed sources for North Carolina LLRW generators.
- ✓ North Carolina generators of Class B and C low-level radioactive waste have created on-site long-term storage for these wastes.
- ✓ North Carolina facilities engaged in long-term storage of Class B and C low-level radioactive waste must address heightened security.
- ✓ The potential re-emergence of nuclear power in North Carolina could generate an increased volume of LLRW, including Class B and C low-level radioactive waste.
- ✓ Several years ago, North Carolina facilities were successful in on-site storage of Class B and C low-level radioactive waste and sealed sources during a five-year period of not having Barnwell as a disposal option. However, this was prior to Sept. 11, 2001, and new security concerns.