



HEALTH
PHYSICS
SOCIETY

LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT NEEDS A COMPLETE AND COORDINATED OVERHAUL

POSITION STATEMENT OF THE HEALTH PHYSICS SOCIETY*

Adopted: October 1993

Revised: May 1995

Updated: July 1998

Revised: July 1999

Revised: September 2005

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Low-level radioactive waste (LLRW) is an inevitable byproduct of beneficial uses of radioactive materials in the United States. It arises from medical research, diagnosis and treatment of diseases, industrial processes, national defense, and electric power generation—all vital to our national interests. LLRW will continue to be generated, requiring the availability of disposal methods and sites so that society can continue to enjoy the full benefits of the use of radioactive materials. Safe and effective methods and standards for processing, transport, and disposal of LLRW are well established.

The 1980 LLRW Policy Act, as amended in 1985, established a framework for the states to provide for safe disposal of LLRW and encouraged the creation of regional compacts to develop an appropriate network of disposal sites. The deadlines established for the development of new sites have passed, with no new sites being opened. Political, judicial, and administrative obstacles have blocked the development of sites and have limited the disposal options for higher-activity classes of waste within existing sites. Disposal options for the highest-activity classes of waste are limited and may no longer exist for a majority of the states after 2008. In addition, the current regulatory framework results in excessive and overly restrictive requirements for disposal of the lowest-activity class of waste. The effect of these obstacles and restrictions is to interfere with optimal use of radioactive materials in medicine, research, energy production, and technology. The use

of all available options, including private, commercial, and federal facilities, can facilitate the orderly, safe, and efficient disposal of radioactive waste.

The current state of affairs for LLRW disposal has led the Health Physics Society to take the following **positions**.

- 1. The goal of managing LLRW is to ensure the safety of workers and the public and to protect the environment. To achieve this goal, disposal, not long-term storage, is the best and safest long-term approach.**
- 2. The Health Physics Society believes that lack of competition in LLRW disposal options results in excessively high costs to waste generators, which impede the use of nuclear technologies that provide significant benefits to society.**
- 3. The Health Physics Society believes that the regulatory framework for management and disposal of LLRW needs a complete and coordinated overhaul.**

The **fundamental changes** needed to LLRW management include the following:

- a. Waste classification and disposal requirements for any type of radioactive waste should be based on its potential risk to public health and safety, not on its origin or legislative stature.**
- b. Risk-informed waste-disposal requirements for radioactive materials should be consistent and integrated with waste disposal for nonradioactive hazardous waste.**
- c. The LLRW Policy Act should be amended or replaced to:**
 - i. allow non-Department of Energy (DOE) waste generators access to all existing licensed and permitted disposal facilities.**
 - ii. allow non-DOE waste generators access to disposal facilities owned and operated by the DOE.**
 - iii. provide a new waste-disposal capacity for all LLRW at a facility currently operated by DOE or by private industry on land owned by the federal government.**

Based on these positions, the Health Physics Society makes the following **recommendations**. Although some of these recommendations are available with no significant change in the regulatory framework, they are all consistent with the regulatory framework changes given above.

1. Based on Positions 3.a and 3.b, we endorse the approach for a waste-disposal classification system proposed by the National Council on Radiation Protection and Measurements (NCRP 2002).
2. Based on Position 3.b, we strongly support the Environmental Protection Agency efforts to move forward with a rulemaking to promulgate regulations allowing disposal of low-activity radioactive waste (LARW) and low-activity mixed waste (LAMW) at Resource Conservation and Recovery Act (RCRA) Subtitle C sites.
3. Based on Position 3.b, we support the use of uranium mill-tailings sites regulated under the Uranium Mill Tailings Radiation Control Act (UMTRCA) for disposal of radioactive materials that are appropriate for these sites. Examples of potentially appropriate materials are certain non-11e.(2) byproduct material such as the LARW and LAMW noted in 2 above; technologically enhanced naturally occurring radioactive materials (TENORM); high-volume, low-activity waste from reactor decommissioning; and certain low-activity resins from operating reactors.
4. Based on Position 3.c, we strongly support DOE efforts to prepare an Environmental Impact Statement under the National Environmental Policy Act to evaluate additional alternatives for disposal of greater-than-Class C wastes. These include deep geological disposal facilities, existing LLRW disposal facilities (both commercial and federal), and new facilities (both commercial and federal) at federal sites or on private land.
5. Based on Position 3.c, we urge Congress to direct federal action to ensure that disposal options and capacity for Class B and Class C waste will exist for all states in the future. This can be achieved by use of commercial or private facilities on federal or private lands to mitigate significant adverse consequences to generators of these wastes.

Reference:

National Council on Radiation Protection and Measurements. Report 139, Risk-Based Classification of Radioactive and Hazardous Chemical Wastes, Bethesda, Maryland. Issued 31 December 2002.

* The Health Physics Society is a nonprofit scientific professional organization whose mission is to promote the practice of radiation safety. Since its formation in 1956, the Society has grown to approximately 6,000 scientists, physicians, engineers, lawyers, and other professionals representing academia, industry, government, national laboratories, the Department of Defense, and other organizations. Society activities include encouraging research in radiation science, developing standards, and disseminating radiation safety information. Society members are involved in understanding, evaluating, and controlling the potential risks from radiation relative to the benefits. Official position statements are prepared and adopted in accordance with standard policies and procedures of the Society. The Society may be contacted at 1313 Dolley Madison Blvd., Suite 402, McLean, VA 22101; phone: 703-790-1745; fax: 703-790-2672; email: HPS@BurkInc.com.