## Statement of the



## **American Medical Association**

before the

Subcommittee on Energy Research and Production

of the

Committee on Science and Technology United States House of Representatives

Presented by

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Re: Low-Level Nuclear Medical Waste

November 7, 1979



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Legislative Department Public Affairs Division (312) 751-6513

9810220126 791107 PDR WASTE WM-6 PDR I am also pleased to have the opportunity to present the views of the American Medical Association on the important and timely issue of low-level nuclear waste disposal.

The AMA has viewed the recent closings of the low-level nuclear waste disposal sites in Washington and Nevada with a great deal of concern. The practice of medicine has particularly benefited from advances in nuclear technology. Countless lives have been saved as a result of the valuable contribution that the use of radiopharmaceuticals have made in improving the detection and treatment of disease. Radioisotopes have been especially helpful in the early detection and the effective treatment of various forms of cancer. Of equal significance has been the contribution that radiopharmaceuticals have made in medical research.

Inability to dispose of low-level medical nuclear waste products threatens to make these lifesaving diagnostic and therapeutic procedures unavailable to thousands of persons who desperately need these services.

The events of the past few weeks graphically illustrate the shortcomings in our current national policy with regard to the disposal of low-level nuclear waste. So long as shippers are required to travel long distances to remotely scattered disposal sites, the chances for accidents of the type that precipitated the current situation will remain.

For the moment, it is imperative that some actions be taken to relieve the buildup of radioactive medical waste material that is accumulating at hospital and laboratory storage facilities as a result of the closing of the Hanford and Beatty sites. While it is difficult to gauge the precise extent of the problem nationwide, that does not obviate the urgent need for development of short-range solutions to the present situation. As one such solution, the AMA and American Hospital Association sent a joint telegram to governors of Nevada, South Carolina and Washington asking them once again to make their sites available for medical nuclear waste disposal.

We must be careful, however, that the short-term situation does not mask the need for a long-term solution to the low-level nuclear waste disposal problem.

The development of a long-range nuclear waste disposal program cannot occur overnight. Such a policy must embrace methodologies for both developing additional disposal sites and also for reducing the volume of waste that is to be bulled. The American Medical Association and the Society of Nuclear Medicine, in concert with the American Hospital Association and others, are seeking long-term solutions to the low-level waste disposal problem.

We commend the Subcommittee for its interest in this matter and would be pleased to provide any assistance to the Subcommittee that we can in resolving this issue.

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It is a pleasure to have this opportunity to describe to you the efforts that the Department of Energy has underway to help assure that adequate, safe disposal capability for low-level radioactive wastes will be available. I will summarize the history of how the current shortage in commercial low-level waste disposal came about, indicate what we should do in both the short and long-term, and describe the research and development that DOE has underway to develop and improve technology for treatment, handling and disposal of these wastes.

Since the days of the Manhattan Engineering District Program, low-level wastes have been disposed of primarily by shallow land burial or sea disposal. A moratorium was placed on new sea disposal licenses in 1960 for the U.S. and the last disposal at sea occurred in 1970. Beginning in the 1940's and 1950's at AEC (now DOE) facilities, most low-level wastes were disposed of by shallow-land burial.

Prior to 1960 the low-level wastes were buried at AEC sites around the country regardless of their origin in AEC or the then minor commercial activities. When it became apparent that commercial low-level wastes would be generated in significant quantities, the AEC announced in 1960 that its land burial sites at the Idaho National Engineering Laboratory

and the Oak Ridge National Laboratory would be used to dispose of low-level-commercial wastes from AEC licensees pending the designation of commercial wastes sites. The commercial sites were to be regional burial grounds on Federal or State-owned land and be operated by private firs under AEC or Agreement State licenses. In 1962 the first commercial site, at Beatty, Nevada, was licensed by AEC. It is now licensed by the State of Nevada as an Agreement State. Five additional commercial sites were licensed over the next nine years: at Maxey Flats, KY (1963), West Valley, NY (1963), Richland, WA (1965), Sheffield, IL (1967), and Barnwell, SC (1971). All except the Sheffield site were licensed by Agreement States. AEC ceased its interim burial operations for commercial waste in 1963 with the advent of commercial sites. Furthermore, to encourage the development of the regional concept for commercial wastes, all AEC contractors, except the Rocky Flats Plant, were directed to use the commercial sites for their unclassified low-level wastes when established on-site burial sites were not available.

Problems arose at several commercial sites in the 1970's. The first to close was the West Valley, New York site due to water management considerations. The Maxey Flats, Kentucky site ceased operations in December 1977 after becoming virtually unused when the Kentucky legislature imposed a 10 cents per pound excise tax. Burial capacity at the Sheffield, Illinois site was exhausted in early 1978 and in March 1979 the site closed when the operator withdrew its application to expand the site.

This past July the Governors of the three States in which commercial burial sites were still open became concerned about improper packaging. They demanded that the Nuclear Regulatory Commission and the Department of Transportation enforce waste packaging and transportation regulations. Despite the assurances of these agencies, the State of Washington found three further violations of the regulations and Governor Ray closed the Hanford commercial site on October 4. On October 23. Governor List closed the Beatty, Nevada site after a USGS team uncovered waste buried outside the existing fence, demonstrating inadequate record-keeping about past operations at the site. Since mid-1978, in an effort to encourage a regional approach to waste disposal, South Carolina has limited waste receipts at the Barnwell site to 2.4 million cubic feet per year. On October 31, 1979, Governor Riley announced a phased schedule to further reduce that limit to 1.2 million cubic feet within two years. South Carolina has also prohibited disposal of organic wastes, such as scintillation fluids and animal carcasses, that comprise a large fraction of the wastes generated by hospitals, medical schools and universities.

The Governors of Nevada, South Carolina, and Washington have stated they do not feel it is appropriate for the citizens of their three States to shoulder the burden of disposing of the commercial low-level wastes from all the States. They have urged the development of regionally-distributed sites adequate to handle the wastes generated in each region. All three Governors have stated that commercial low-level waste disposal is a

nation-wide problem, but that the establishment of commercial disposal sites should be a State responsibility. The Department agrees with this assessment by the three Governors and therefore encourages the retention of the present system of commercially operated sites licensed by either the NRC or an Agreement State.

In the event that commercial operations cease to be feasible then the Nation will be faced with both a near and long-term problem. In the near-term, provisions must be made to safely manage the low-level waste being generated, particularly from the medical sector. The longer term solution may require a national program managed by the Federal government.

In order to make available to commercially-generated wastes as much as possible of the existing disposal capacity at commercial sites, DOE has temporarily stopped its use of commercial burial sites. Wastes from DOE contractor operators have, in the past, constituted 10-20% of the volume buried at commercial disposal sites. The DOE wastes will now be shipped to existing DOE burial sites.

As a near-term response to the currently marginal capacity for low-level waste disposal, the NRC has proposed a sequence of actions to increase storage capacity at waste generator sites or other locations within the States. Upon request by a State, DOE will provide technical assistance to develop interim storage capability for that State. If a State cannot find adequate disposal capacity and NRC finds that public health and safety will thereby be endangered, NRC may then use its authority under

Section 161.b of the Atomic Energy Act to request that DOE accept specific waste shipments at DOE sites. In considering the NRC request, DOE would, of course, consult with the Governor of the State in which the DOE site is located.

We have prepared a draft paper that describes the options available for emergency acceptance of commercial wastes at DOE sites until NRC has identified a licensed site. The draft is undergoing internal review and will be transmitted to NRC by January 31, 1980. It includes waste acceptance criteria which commercial waste generators would have to meet, and identifies charges for full-cost recovery for storage or disposal services and long-term care which would then be charged and collected by the NRC.

In its report to the President, the Interagency Review Group (IRG) on Nuclear Waste Management supported the concept of regional disposal sites, similar to the recent proposal by Chairman McCormack. The IRG recommended that DOE take the lead in developing a national plan with active participation from other Federal agencies, the States, industry and the public. DOE is developing such a plan which will define the number, timing, geographic distribution and disposal techniques needed for low-level wastes and provide a strategy for assuring that an adequate number of regional sites will be available.

Chairman McCormack has requested in an October 25, 1979 letter to Secretary Duncan that within 60 days DOE prepare a plan to establish regional disposal sites. We are preparing such a plan which will describe what is needed, propose a process for working with the States, outline a process for establishing regional sites, and describe options to deal with the situation in the interim.

We support the recommendation by the Interagency Review Group that new sites for the disposal of non-defense, low-level wastes be licensed by the NRC. The IRG also recommended that States with commercial burial grounds be given the option to transfer ownership and management responsibility to the Federal Government under licensing by the NRC. We are preparing legislation to effect such transfers, but have not yet submitted specific legislative proposal to the Administration.

An important part of DOE's low-level waste program is the technology development component. DOE has for several years had underway a research and development program for technology designed to upgrade DOE's low-level waste operations. The results are available to the commercial sector. Work is in progress to develop and improve technology for treating and immobilizing the wastes. Techniques such as incineration, electropolishing, acid digestion and electromelting can reduce the volume of waste to be disposed and immobilize the residue. They are being assessed for applicability to low-level wastes. Several of these look promising, and one or more will be selected for demonstration at the University of Maryland early in 1980. That first demonstration will address organic wastes typical of those generated by hospitals and universities. It will help determine its usefulness and help license such facilities.

The IRG has recommended that R&D for improved shallow-land burial should be accelerated. Improvements to the current practice of shallow-land burial are being-developed to increase the capability to retain the radionuclides in low-level wastes. Techniques for surface sealing, in-situ waste stabilization, moisture and erosion control and control of radionuclide transport through the environment are being investigated to reduce reliance on long-term maintenance and surveillance. Improved technology to detect radionuclide migration and models of radionuclide transport through the environment. We will conduct at least two small-scale demonstrations of improved shallow-land burial in an arid and humid environment.

Because of the heterogeneity of low-level wastes and the range of physical and chemical characteristics, EPA and NRC are developing systems for classifying wastes according to the disposal methods required for them. Shallow land burial will be suitable for many categories of LLW. Other categories may be suitable for disposal by methods similar to sanitary landfills. Still others may require alternative techniques such as burial at intermediate depths (i.e., a minimum of 5-10 meters of soil cover), mined cavities, engineered structures, and so on. The availability of a variety of disposal methods will provide options for LLW disposal in many geohydrologic environments. Finally, alternative disposal methods may be used to handle potential increases in waste quantities, particularly from decommissioning. Therefore, the IRG recommended that R&D for alternatives should be accelerated. A review

is underway to select promising alternative techniques for development and field-testing. Demonstration of the most viable alternatives will begin in FY 1981 in preparation for full-scale operations or transfer to the commercial sector.

In summary, we will work with the States involved to develop regional disposal capacity and, if necessary, interim storage. DOE has proposed to the Office of Management and Budget that the President establish, by Executive Order, the State Planning Council discussed in the IRG report. We would expect that they would become deeply involved in this issue and assist in implementing both short- and long-range solutions. We will apply technology that is at hand and develop new disposal options. We will help the NRC and the States to deal with emergency situations. However, we do not expect that opening of DOE sites for commercial low-level waste disposal will substantially relieve the near or long-term demand for disposal capacity.

## COMMITTEE ON SCIENCE AND TECHNOLOGY U.S. HOUSE OF REPRESENTATIVES WASHINGTON, D.C. 20515

SUBCOMMITTEE ON ENERGY RESEARCH AND PRODUCTION

Hearing on Low-Level Nuclear Waste Burial Grounds

November 7, 1979

9:00 a.m. - Room 2318 Rayburn HOB

## WITNESS LIST

The Honorable Dixy Lee Ray Governor State of Washington

The Honorable Richard W. Riley Governor State of South Carolina

The Honorable Butler Derrick (D-S.C.) U. S. House of Representatives

Medical Panel

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