UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

December 28, 1990

The Honorable Donald W. Riegle, Jr.
United States Senate
Washington, D. C. 20510

Dear Senator Riegle:

I am responding to your October 30, 1990, letter in which you asked us to address the concerns of a constituent who expressed disagreement with a Nuclear Regulatory Commission (NRC) policy which could be used to classify certain low-level radioactive waste (LLW) as being below regulatory concern or BRC.

On July 3, 1990, the Commission issued a Below Regulatory Concern Policy Statement. I have enclosed a copy of this statement together with a companion explanatory booklet for your use in responding to your constituent. The statement identifies the principles and criteria that will govern Commission decisions to exempt certain radioactive material from the full scope of regulatory controls. Thus, the policy could apply, but would not be limited to potential BRC waste determinations. I would emphasize that the policy is not self-executing and does not, by itself, deregulate any LLW. Any specific exemption decisions would be accomplished through rulemaking or licensing actions during which opportunity for public comment would be provided in those situations where generic exemption provisions have not already been established.

The policy can be considered an outgrowth of the concepts articulated in the Low-Level Radioactive Waste Policy Amendments Act of 1985 (Pub. L. 99-240). That Act (i.e., Section 10) directed the NRC to "...establish standards and procedures...and develop the technical capability for considering and acting upon petitions to exempt specific radioactive waste streams from regulation...due to the presence of radionuclides in such waste streams in sufficiently low concentrations or quantities as to be below regulatory concern." In response to the legislation, NRC developed and published in 1986 a Statement of Policy and Procedures which outlines the criteria for considering such petitions. Our recently issued broad policy statement, which has implications beyond waste disposals (e.g., applicable to decommissioning decisions involving the release of residually-contaminated lands or structures), reflects much of the basic radiation protection approach described in this earlier Commission policy. The Commission, in both actions, has acted in the belief that the nation's best interests are served by policies that establish a consistent

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risk framework within which exemption decisions can be made with assurance that human health and the environment are protected. In this regard, we believe our actions are consistent with those of other Federal agencies; e.g., the Environmental Protection Agency (EPA) and the Food and Drug Administration (FDA), who have formulated or are attempting to formulate similar policies for the hazardous materials they regulate.

It may be helpful to first summarize the typical exposures which we all routinely receive from a variety of sources of radiation. The exposures occur from radiation that is natural in origin as well as from sources which involve man-made uses of radioactive material. In total, as estimated by the National Council on Radiation Protection and Measurements (NCRP Report No. 93), the effective dose equivalent received by an average individual in the United States population is about 360 millirem per year. Of this total, over 83 percent (about 300 millirem per year) is a result of natural sources, including radon and its decay products, while medical exposures such as x-rays, when averaged over the U.S. population, contribute an estimated 15 percent (53 millirem per year). Other man-made sources, including nuclear fallout, contribute the remaining 1 to 2 percent of the total exposure. The remaining 1 to 2 percent also includes the contribution from nuclear power plant effluents. Any low-level radioactive material associated with an exemption decision would not be expected to change this typical exposure "picture." In fact, the level of radioactivity for some potential BRC wastes may be such a small fraction of natural background radiation that it may not be readily detectable and, therefore, could not cause measurable increases in radiation levels currently associated with drinking water supplies.

In responding to the specific concern on dispersal of BRC radioactive material in community landfill sites, I would again point out that natural radioactive material is pervasive in our environment, including the radioactivity which exists in our own bodies. As a result, very low levels of radioactivity from both natural and man-made sources are currently entering landfills. Thus, the real issue involved in radioactive material disposals is, "What level of radioactivity can we allow to be disposed of at specifically defined non-licensed disposal facilities without compromising public health and safety or the environment"? On this point, Section 10 of the Act focuses on the concentrations or quantities of radionuclides which could be disposed of at other than licensed low-level radioactive waste sites. It is this question, among others, to which the Commission's BRC policy is directed.

With regard to the concern regarding recycling, the Commission would assess potential public exposures from BRC waste disposals, including those that could result from any recycling. The exposure estimates would be compared with the BRC policy's individual and collective dose criteria. In certain cases where doses approach the policy criteria or where uncertainties in dose estimates are sufficiently important, appropriate constraints to minimize the potential for recycle could be incorporated into the exemption decision. These constraints, together with others deemed to be appropriate, would be imposed on our licensees and would be subject to the Commission's inspection and enforcement program.

In closing, I want to assure you that the Commission takes its mandate to protect the health and safety of the public very seriously. I, therefore, hope the views expressed and the enclosed information will prove useful in responsibly expanding the dialogue on this controversial and technically complex issue.

Sincerely,

Dennis K. Rathbun

Dennis K. Rathbun, Director
Congressional Affairs
Office of Governmental and
Public Affairs

Enclosures:
As Stated