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HEALTH PHYSICS SOCIETY

Specialists in Radiation Safety

June 13, 2003

Secretary
United States Nuclear Regulatory Commission
Washington, DC 20555
Attention: Rulemakings and Adjudications Staff

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USNRC

June 16, 2003 (10:15AM)
OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

SUBJECT: Health Physics Society Comments on the United States Nuclear Regulatory Commission Rulemaking on Controlling the Disposition of Solid Materials: Scoping Process for Environmental Issues and Notice of Workshop

Dear Sir or Madam:

The Health Physics Society (HPS) is a nonprofit scientific professional organization whose mission is excellence in the science and 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.

As President of the HPS I am providing comments and recommendations prepared by the HPS Legislation & Regulations Committee regarding rulemaking on *Controlling the Disposition of Solid Materials*¹. In addition, I would like to express my gratitude to the United States Nuclear Regulatory Commission (U.S. NRC) for allowing HPS representative, Mr. William E. Kennedy, Jr. to participate in the rulemaking workshop held in Rockville, Maryland on May 21-22, 2003. Mr. Kennedy's comments are reflective of the HPS position on the disposition and

¹ The NRC requested comments on scope of proposed rulemaking in the Federal Register, *Rulemaking on Controlling the Disposition of Solid Materials: Scoping Process for Environmental Issues and Notice of Workshop*, Volume 68, Number 40, dated February 28, 2003.

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control of solid materials², and I hope that they will be useful as the U.S. NRC proceeds with this rulemaking effort.

The HPS fully supports the U.S. NRC amending its current regulations to include generic dose-based criteria for “unrestricted use” of materials that are inherently safe. Although the current regulatory process is protective of public health³, the HPS encourages the U.S. NRC to continue this rulemaking process to result in regulation of the disposition of solid materials by using a risk-informed, performance-based philosophy. The HPS believes that this approach is well suited for developing uniform radiation protection standards that allow for the unrestricted disposition of solid materials.

The HPS recommends use of the annual dose limit and the derived screening criteria contained in the American National Standard Institute/Health Physics Society (ANSI/HPS) Standard N13.12, *Surface and Volumetric Radioactivity Standards for Clearance* (ANSI/HPS N13.12, 1999). This standard was developed for ANSI under the direction of the HPS Standards Committee. The standard received consensus approval through ANSI Committee N13 on August 31, 1999. Moreover, our recommendation is in keeping with the intent of Public Law 104-113, *National Technology and Transfer Act of 1995*, and OMB Circular A-119, *Federal Participation in the Development and Use of Voluntary Consensus Standards*. The radiological criteria contained in ANSI/HPS N13.12 provide for the health and safety of the average member of the critical group⁴ such that the effective dose will not exceed one millirem per year. The dose criteria adopted within this National Consensus Standard is consistent with the recommendations of the National Council on Radiation Protection and Measurements (NCRP) regarding limiting exposure of individual members of the public as specified in NCRP Report No. 116 *Limitation of Exposure to Ionizing Radiation*. Furthermore, the annual individual dose standard of one millirem per year in ANSI/HPS N13.12 for disposition of solid materials allows for the potential exposure to radiation from multiple sources or practices, while still maintaining individual annual doses to less than 100 millirem per year. The HPS strongly encourages the adoption of ANSI/HPS N13.12 for determining radiological criteria for sources that are inherently safe, thus warranting no further regulatory control.

² Position Statement of the Health Physics Society, *Clearance of Materials Having Surface or Internal Radioactivity*, September 1999, <http://hps.org/documents/materials.pdf>.

³ The NRC currently allows unrestricted use of solid materials under existing policy and specifies certain exemptions for disposal of solid materials under Title 10, Code of Federal Regulations, Part 20.2002.

⁴ A group of individuals in the population expected to receive the highest dose equivalent.

The HPS recommends that the U.S. NRC adopt the criteria contained in ANSI/HPS N13.12 in this rulemaking to facilitate establishing uniform radiation protection standards used in support of international commerce. Many of the members of the European Community have successfully adopted similar dose-based radiological criteria, which are used to support commerce across international borders. The International Atomic Energy Agency (IAEA) developed these radiological criteria⁵ specifying concentrations of radioactive materials that are considered inherently safe. The basic radiological criteria used by the IAEA to derive radionuclide concentrations for the clearance of materials was to limit individual doses at an annual effective dose rate of one millirem. As such, international radiological criteria for the release of solid materials are equally as protective to members of the general public as those specified in ANSI/HPS N13.12.

The HPS encourages the U.S. NRC to adopt ANSI/HPS N13.12 in lieu of the current radiological criteria contained in NRC Policy⁶ that have been used by the licensed community for the unrestricted release of materials containing residual radioactivity. The radiological criteria contained in existing U.S. NRC guidance and policy directives are primarily based on radiation detection capabilities that existed in 1974. As such, they do not provide a uniform level of protection, as would be achieved by adoption of dose-based criteria.

The HPS recommends that the impacts to regulatory programs associated with generation of low-level radioactive waste be included within the scope of the Generic Environmental Impact Statement supporting promulgation of this rule. Because the current guidance does not contain radiological criteria for assessing volumetric-contaminated solid materials, the licensed community has been disposing of solid materials that contain negligible quantities of radioactivity as low-level radioactive wastes. Adopting ANSI/HPS N13.12 provides the volumetric, dose-based criteria that may be used for appropriately determining the proper disposition of solid materials.

Finally, the HPS recommends early consultations with other Federal and State agencies by the U.S. NRC in its role in promulgating radiation protection standards in support of alternative disposals at RCRA facilities. We believe that early consultation and coordination may be effective in

⁵ IAEA Safety Series No. 115 *International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources*, February 1996.

⁶ Policy and Guidance Directive FC 83-23 *Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source and Special Nuclear Materials* (November 1983), Regulatory Guide 1.86 *Termination of Operating Licenses for Nuclear Reactors* (June 1974), and IE Circular No. 81-07, *Control of Radioactively Contaminated Material* (May 1981).

developing a suitable regulatory framework for proceeding with "conditional use" alternatives involving the land-disposal at sites regulated by the United States Environmental Protection Agency within its authority under the Solid Waste Disposal Act.

Thank you for the opportunity to provide you with these comments and recommendations as part of the rulemaking process. Please contact me if the HPS can be of any assistance in your future efforts.

Sincerely,

A handwritten signature in cursive script that reads "John R. Frazier".

John R. Frazier, Ph.D., CHP
President

Copy to:

Chairman Diaz
Commissioner Dicus
Commissioner McGaffigan
Commissioner Merrifield