DOCKET NUMBER
PROPOSED RULE PR 20
(68FR09595)

NEI NUCLEAR ENERGY INSTITUTE

(2566)

DOCKETED
USNRC

July 1, 2003 (5:00PM)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Ralph L. Andersen, CHP
CHIEF HEALTH PHYSICIST
NUCLEAR GENERATION

June 30, 2003

Secretary
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

ATTN: Rulemakings and Adjudications Staff

SUBJECT: Comments on "Rulemaking on Controlling the Disposition of Solid Materials: Scoping Process for Environmental Issues and Notice of Workshop" (68 Fed. Reg. 9595, dated February 28, 2003)

This letter provides comments of the Nuclear Energy Institute (NEI), on behalf of the nuclear energy industry, on the Nuclear Regulatory Commission (NRC) proposal to conduct rulemaking for controlling the disposition of solid radioactive materials regulated under the Atomic Energy Act, as described in the subject *Federal Register* notice.

NEI recommends that the NRC proceed with rulemaking to establish a dose-based standard for the safe release of solid radioactive material for the purposes of re-use or disposal. NRC should develop implementing guidance that endorses the American National Standards Institute/Health Physics Society N13.12-1999 for licensee use in implementing the rule and allows for the continued use of current monitoring methods that are adequate to assure protection of public health and safety. The rulemaking should not displace specific approvals for disposition of solid radioactive materials that have been deemed safe and approved by the NRC or its Agreement States.

The rulemaking should prohibit the release of solid radioactive material on a generic basis for recycling. Further, NRC should require that licensee proposals for recycling of solid radioactive material be considered on a case-by-case basis, requiring public notice and opportunity for stakeholder input to properly account for the specific technical details and assure due consideration of the potential socio-economic aspects involved.

Template = SECY-067

SECY-02

NEI also recommends that NRC coordinate the rulemaking with appropriate international, Federal and State agencies and organizations to assure compatibility with related national and international standards, prevent unnecessary impacts upon commerce, and support development of a suitable regulatory framework for the safe disposal of solid radioactive material at solid waste disposal facilities regulated under the Resource Conservation and Recovery Act.

We encourage the NRC to acknowledge throughout the rulemaking process, including development of the associated generic environmental impact statement (GEIS), that the current regulatory framework for controlling the disposition of licensed solid radioactive materials assures protection of public health and safety. NRC should make clear that the primary reasons for proceeding with rulemaking arise from the opportunity to enhance efficiency, cost-effectiveness and practicality in the regulation, and not from health and safety concerns.

Detailed comments regarding our recommendations are enclosed. If you have any questions regarding our comments, please contact me at (202) 739-8111.

Sincerely,

Ralph L. Andersen

Enclosure

Enclosure 1

Nuclear Energy Institute Comments on "Rulemaking on Controlling the Disposition of Solid Materials: Scoping Process for Environmental Issues and Notice of Workshop" (68 Fed. Reg. 9595, dated February 28, 2003)

These comments are provided by the Nuclear Energy Institute (NEI), on behalf of the nuclear energy industry, in regard to the Nuclear Regulatory Commission (NRC) proposal to conduct rulemaking for safely controlling the disposition of licensed solid radioactive materials, as described in the subject *Federal Register* notice. These comments were developed with the assistance of an industry task force of nuclear power reactor radiation safety managers and health physicists.

Although these comments are derived primarily from the experience and perspective of NEI member companies that own and operate nuclear power reactors, the comments have also been reviewed by staff from companies that own and operate nuclear fuel cycle facilities and companies that manufacture and distribute radionuclide sources and radiopharmaceuticals.

Also, these comments reflect some insights gained from discussions with representatives from other stakeholder organizations, both in NRC-sponsored public meetings and workshops, as well as in direct dialogue. As these discussions continue, and as NRC proceeds through a rulemaking process, our perspective will continue to evolve.

The Current Regulatory Framework Assures Protection of Health and Safety, But Enhancements to Effectiveness and Efficiency Should Be Made.

Under the current NRC regulatory framework, nuclear power reactor licensees have three options for disposition of licensed solid radioactive material, including:

- transfer of the material to another licensee;
- disposal of the material at a licensed land disposal facility; or
- obtaining NRC approval for a proposed alternative method of disposal on a case-specific basis.

Nuclear power reactor licensees are required to monitor potentially contaminated items being released from a facility to confirm that such items do not contain any detectable level of licensed radioactive material. Where licensed

radioactive material is detected, then the item must either be decontaminated, or it must be dispositioned using one of the three options described above.

In addition to the three options specified in the regulations, some materials licensees (i.e., non-power reactor licensees) have conditions specified in their NRC licenses that permit the release of solid material containing relatively small concentrations of detectable radioactivity from licensed activities. The conditions for making such releases are specified in the materials licenses and in NRC regulatory guidance. These conditions and criteria are not risk-based *per se*, in that they typically involve limits on concentration levels of licensed radioactive material or a required retention period before release, during which the quantity of licensed radioactive material is reduced through the process of radioactive decay.

Options for disposition of solid radioactive material under the current regulatory framework, whether as generic options in NRC regulations, conditions in materials licenses, or case-specific proposals for an alternate means of disposal, are approved by the NRC only after the agency has determined that health and safety will be protected. Further, the NRC conducts an ongoing inspection program to confirm that licensees comply with the applicable regulatory requirements and license conditions for the release of solid radioactive material.

Recently, a National Academy of Sciences (NAS) committee examined the current NRC regulatory framework for controlling the disposition of licensed solid radioactive material and concluded that the framework is protective of public health and "workable."

The NAS committee also concluded that the current approach is "inconsistently applied, is not explicitly risk based and has no specific guidance or regulations for clearance of volume-contaminated slightly radioactive solid material," and recommended that the NRC should "evaluate a broader range of alternative approaches to the disposition of slightly radioactive material, including the alternative of clearance employing a dose-based standard.

The NRC has expressed its general agreement with the conclusions and recommendations described above, and has decided to pursue rulemaking to consider a broad range of alternatives for safe disposition of licensed solid radioactive material.

We fully support NRC's decision to proceed with rulemaking. We agree with the NRC and NAS committee conclusions that the current regulatory framework assures protection of public health and is workable. We also believe that NRC should proceed without delay with rulemaking to:

- Establish a dose-based standard for the re-use or disposal of licensed solid radioactive material that clearly defines a level at which protection of public health and safety is assured without the need for continued regulatory oversight or action;

- Require that proposals for direct recycling be considered on a case-specific basis to assure due consideration of the specific technical details and potential socio-economic aspects involved; and

- Enable a broader range of alternatives for disposition of licensed solid radioactive material that maintain reasonable assurance that public health and safety will be protected.

We encourage the NRC to acknowledge throughout the rulemaking process, including development of the associated generic environmental impact statement (GEIS), that the current regulatory framework for controlling the disposition of licensed solid radioactive materials assures protection of public health and safety. NRC should make clear that the primary reasons for proceeding with rulemaking arise from the opportunity to enhance efficiency, cost-effectiveness and practicality in the regulation, and not from health and safety concerns. Indeed, the NRC has the opportunity to enhance public confidence in the regulatory process by promulgating amended rules which are clearer and are able to be more consistently applied.

NRC Should Establish a Dose Based Standard for Re-Use and Disposal

The NRC should establish a dose-based standard for the re-use or disposal of licensed solid radioactive material. The standard should clearly define a level of radiation dose at which protection of public health and safety is assured without the need for continued regulatory oversight or action. The standard should permit re-use or disposal on an unrestricted basis. Of course, disposal under this standard would be permitted only in a manner that is not otherwise restricted or prohibited by applicable local or state codes, standards, or statutes, or by the regulations of other federal agencies. Use of the standard for unrestricted direct recycle should be prohibited, as discussed below.

There are several reasons why we suggest that NRC employ a dose-based standard:

- A dose-based standard can be compared with and integrated into the complete regulatory framework of radiation safety standards, such as the annual dose limits and constraints of 100 mrem (1 mSv) per year

for all licensed sources, 25 mrem (0.25 mSv) per year for license termination, and 10 mrem (0.1 mSv) per year for air emissions.

- A dose-based standard is considered risk-based because an estimate of potential health effects can be made using risk models –and therefore can be compared with levels of risk found acceptable in promulgating other regulatory standards. However, in making such comparisons, the NRC should note that there is considerable scientific uncertainty as to whether there are any health effects associated with the range of dose values that has been discussed as a possible standard.

- A dose-based standard can be directly benchmarked with everyday sources of radiation that are not regulated, such as environmental radiation, building materials used in homes, travel in an airplane, or consumption of certain foods –all which involve levels of radiation dose that are comparable to or above the levels that have been discussed for a standard –without a social mandate for regulation to assure protection of health and safety.

- A dose-based standard can be applied to a wide range of scenarios and diverse populations to allow for derivation of practical secondary standards that can be monitored directly.

We suggest that an appropriate level for proposing a dose-based standard is in the range of 1 mrem (0.01 mSv) to 10 mrem (0.1 mSv) per year. This range represents a small fraction of the variability in the annual radiation dose to people in the U.S. from environmental radiation, it is a small fraction of the NRC's 100 mrem (1 mSv) per year dose limit that is protective of public health and safety, and it is practical with regard to corresponding derived secondary standards that would be employed in implementation guidance.

Recycling Should Be Considered on a Case-by-Case Basis

The rulemaking should prohibit the unrestricted release of licensed solid radioactive material for the purpose of recycling.[1] Further, the rulemaking should require that proposals for recycling of licensed solid radioactive material be considered on a case-by-case basis, requiring public notice and opportunity for stakeholder input to properly account for the specific technical details and assure that due consideration of the potential socio-economic aspects involved. Regulatory guidance should be developed to describe acceptable methods for demonstrating

[1] As used here, "recycling" refers to the use or reuse of a waste material as an effective substitute for a consumer product or as an ingredient or as feedstock in an industrial or energy producing process. (adapted from National Council on Radiological Protection and Measurements (NCRP) Report No. 139, "Risk-Based Classification of Radioactive and Hazardous Chemical Wastes")

with reasonable assurance that licensed solid radioactive materials released for re-use or disposal are actually directed to those purposes, and are not diverted to recycling.

We make this recommendation to reflect insights gained from discussions with representatives from industries and organizations involved in recycling of metals and concrete. These representatives described potential adverse economic impacts related to reduced productivity and market share that may arise from unrestricted recycling of bulk quantities of contaminated materials. Such impacts should be fully evaluated in the generic environmental impact statement and, in our view, should form the basis for prohibiting recycling of licensed solid radioactive material on an unrestricted basis.

While we do not support recycling on an unrestricted basis, we do recommend that NRC provide a regulatory framework for NRC consideration on a case-by-case basis of specific proposals for the restricted or conditional recycling of licensed solid radioactive material. In this context, "restricted recycling" refers to a situation in which regulatory oversight of the licensed solid radioactive material is maintained throughout the recycling process and would continue through the ultimate end-use of the material. "Conditional recycling" refers to release of licensed solid radioactive material from further regulatory oversight for recycling under a set of specified conditions that provide reasonable assurance that human health and safety will be protected. We recommend this option on the basis of our presumption that this option will be implemented in a manner in which the economic impacts on recycling industries, described above, would be avoided, and that a reasonable demonstration that such impacts will be avoided would be a requisite part of the regulatory framework.

Implementation Guidance Should Reflect Industry Standards and Safe Practices to Control Regulatory Costs and Reduce Unnecessary Burden.

Implementation guidance should endorse the American National Standards Institute/Health Physics Society (ANSI/HPS) Standard N13.12, *Surface and Volumetric Radioactivity Standards for Clearance.* This national consensus standard provides criteria for the safe release of solid radioactive material on the surface of an item or contained in its volume. In our view, the standard is practical and is consistent with the methodology utilized in conjunction with other NRC regulations promulgated under the Atomic Energy Act. Therefore, we believe that consideration by NRC of use the standard is required under the National Technology Transfer and Advancement Act of 1995.

Existing industry practices for monitoring and controlling licensed solid radioactive materials should be acceptable for continued use under the proposed rule. These practices are acceptable under the current regulatory framework for

the unrestricted release of items with no detectable licensed radioactive material in a manner that assures adequate protection of public health and safety. Since the rulemaking will not redefine the required level of adequate protection of public health and safety, it seems logical that existing practices would continue to be acceptable under the amended rules.

Similarly, we suggest that existing conditions in materials licenses for the release of solid material containing relatively small concentrations of detectable radioactivity from licensed activities and specific alternative methods of disposal that have been approved by the NRC on a case-specific basis should not be displaced by the rulemaking.

NRC Should Consult and Coordinate This Effort with Other Appropriate Agencies to Enable Safe Disposal Options, Ensure Compatibility with Related Safety Standards, and Not Unnecessarily Restrict Transboundary Trade and Commerce

The NRC should consult with the Environmental Protection Agency and appropriate State agencies to coordinate development of a suitable regulatory framework for the safe disposal of licensed solid radioactive material at solid waste facilities permitted under the Resource Conservation and Recovery Act (RCRA).

In our view, solid waste disposal sites that have been permitted under RCRA are suitable for this purpose because the site characteristics and engineered features that are required to be in place will assure protection of public health and safety given proper coordination between the agencies in developing the respective changes to regulations. Due to the differences in requirements for permitting Subpart C and Subpart D RCRA solid waste disposal facilities, consideration should be given to establishing different regulatory approaches for approval of disposal of licensed radioactive material in such facilities (e.g., generic versus case-specific approval).

The NRC should coordinate with Agreement State and Non-Agreement State radiological protection agencies and organizations to assure reasonable and practical compatibility between the proposed rule and other related radiation safety standards, e.g., for the control of disposition of non-licensed solid radioactive materials. With regard to State regulations for the control of licensed (i.e., Atomic Energy Act) solid radioactive material, the proposed rule should require strict compatibility between the NRC rule and corresponding State regulations because the NRC rule will have significant transboundary implications.

The NRC should consult and coordinate with appropriate international agencies and organizations to assure reasonable and practical compatibility between the proposed rule and the related radiation safety regulations of other countries to assure that the proposed rule will not unnecessarily restrict transboundary trade and commerce.