DOCKET NUMBER
PROPOSED RULE PR 20
68FR09595

(1902)

From: "Rachel Weintraub" <rweintraub@consumerfed.org>
To: <secy@nrc.gov>
Date: Fri, Jun 27, 2003 5:21 PM
Subject: Comments from CFA and U.S. PIRG on CONTROLLING THE DISPOSITION OF SOLID MATERIALS: SCOPING PROCESS FOR ENVIRONMENTAL ISSUES

Please accept the attached comments on NRC's rulemaking concerning controlling the disposition of solid materials: Scoping process for environmental issues.

Thank you,
Rachel Weintraub

Rachel Weintraub
Assistant General Counsel
Consumer Federation of America
1424 16th St, NW Suite 604
Washington, DC 20036
ph: (202) 939-1012 fax: (202) 797-9093

COMMENTS OF

CONSUMER FEDERATION OF AMERICA

and

U.S. PUBLIC INTEREST RESEARCH GROUP

RULEMAKING ON CONTROLLING THE DISPOSITION OF SOLID MATERIALS: SCOPING PROCESS FOR ENVIRONMENTAL ISSUES AND ANNOUNCEMENT OF PUBLIC MEETING 68 FR 9595; FEBRUARY 28, 2003

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

June 27, 2003

As two of the nation's leading consumer organizations, Consumer Federation of America[1] and U.S. Public Interest Research Group[2] urge the Nuclear Regulatory Commission to maintain full regulatory control of all radioactive material. We have significant concerns about all five of the Nuclear Regulatory Commission's (NRC) options for "controlling the disposition of radioactive materials." These options would lead to the commercial release of radioactive material for restricted or unrestricted use, or its disposal in facilities that are inadequate for preventing leakage, environmental contamination and public exposure. We recommend that the NRC develop additional options to better regulate and isolate the disposal of radioactive waste.

We recommend that the NRC reject options 1 through 4, and only consider option 5 if the radioactive waste will be managed in way that is intended to preclude radioactive releases into the environment or commerce. The rulemaking should give greater attention to ways of effectively isolating all levels of radioactive waste at sites specifically licensed for that purpose. The NRC should protect consumers by focusing its efforts at better institutional controls that will last as long as the radioactivity is in the waste, instead of continuing to waste time and money on proposals that will needlessly expose consumers to harmful radiation.

I. Summary: Consumers should not be exposed to radiation from radioactive waste.

We urge the NRC to reject any scenario of disposal or release of radioactive materials that could place levels of ionizing radiation into consumer products. While there appear to be efforts to establish a safe level of ionizing radiation, we are persuaded by the scientific evidence that has concluded that there is no safe threshold for ionizing radiation.[3]

The production of nuclear energy, weapons, and industrial use of nuclear materials results in the production of high-level radioactive waste, so-called "low-level" radioactive waste, mixed radioactive and hazardous waste, mill tailings and other radioactive sources. High-level waste consists of irradiated fuel from the cores of

---

[1] Consumer Federation of America is a nonprofit association of over 300 pro-consumer groups, with a combined membership of 50 million people. CFA was founded in 1968 to advance consumers' interests through advocacy and education.

[2] U.S. Public Interest Research Group serves as the national advocacy office for state Public Interest Research Groups. PIRGs are non-profit, non-partisan public interest advocacy organizations active around the country.

[3] "Cancer and low level ionizing radiation" *The Bulletin of the Atomic Scientists*. September 1978; "Reanalysis of Hanford Data: 1944-1986 Deaths." *American Journal of Industrial Medicine*. 23:371-389 (1993); ECRR, 2003 Recommendations of the European Commission on Radiation Risk; Health Effects of Ionising Radiation Exposure at Low Doses for Radiation Protection Purposes, Regulators Edition: Brussels, 2003.

reactors, the liquid and sludge from reprocessing irradiated fuel, the tanks that hold the liquid and sludge, and the solid that results from solidification of the high level liquid.

"Low-level" radioactive waste contains the same elements as high-level waste, but in different ratios and lower concentrations. Class A "low-level" radioactive waste is less concentrated than B or C but can contain any of the radionuclides as in high level waste. The wastes that are candidates for release and recycle and for dumping in unlicensed dumps are probably from the "low-level" category and probably from Class A, the less concentrated class. That which could be released could have plutonium, cesium, strontium, iodine or any other radionuclide contamination. Intentional introduction of radioactive sources, whether diffuse or concentrated, can act synergistically with toxins being released from other sources, magnifying the health effects and concern.[4]

II. Analysis of NRC's Options: None of NRC's proposals adequately protect consumers.

All five options presented in the scoping for the proposed rule are troublesome because they do not adequately prevent public exposure to radioactive materials in the public marketplace and the environment. Only one option, Option 5, provides for keeping this material in a facility with a specific license for disposal of radioactive materials. However, the history of these sites has shown that they often leak. Better safety and monitoring requirements are needed for long-term management of nuclear wastes that will remain hazardous for millennia.

A. Options 1, 2, and 3

Release of nuclear waste into the marketplace for reuse or recycling externalizes the nuclear industry's risk and costs by transferring these liabilities to consumers, and other industries such as the recyclers and those that fabricate products from recycled materials. Once released into commerce, radioactive waste from nuclear power and weapons production could literally become part of everyday consumer products with which the public has intimate and routine contact.

Unfortunately, this could already be occurring because NRC/ Agreement State licenses and case-by-case permits and Department of Energy policies allow some nuclear waste, such as materials contaminated with transuranics, iodine-125, I -129, Ac-227, Radon-226, Radon-228, Th-228, Th-230, Pa-231, Natural thorium, strontium -90, iodine 126, iodine 131, iodine 133, radon 223, radon 224, uranium 232, thorium 232, as allowed by DOE Internal Order 5400.5 to be deregulated and released or cleared into everyday commerce. This highlights the problem with Option 1, maintaining the status quo.

---

[4] Proceedings of the Second International Symposium on Ionizing Radiation: Environmental Protection Approaches for Nuclear Facilities. May 10-14, 1999, Ottawa, Ontario, Canada cosponsored by the Atomic Energy Control Board (Canadian Nuclear Safety Commission), Swedish Radiation Protection Institute (SSI), Australian Supervising Scientists Group. Theme 3: Effects of Multiple Stressors.

Instead, NRC should stop this practice and ensure that all radioactively contaminated materials remain under full regulatory control.

The NRC's Options 1, 2 and 3 allow nuclear waste to be released into commerce and Option 4 would permit it to be disposed at municipal, industrial or hazardous waste sites not designed or intended to isolate long-lived radioactive materials.

There is presently no comprehensive record keeping regarding the actual amounts of these materials that are being dispersed or the destination of this material. Measurable concentration limits that were established for a different purpose in 1974[5] are being used as the release limits. NRC's alternative proposal, risk or dose-based standards, could permit even greater amounts of nuclear waste to be released with even less accountability and enforcement capability.

Both Options 2 and 3 use risk criteria that are not readily verifiable and could open the door to more nuclear waste being dispersed into commerce. Option 2 allows "unrestricted release" of any nuclear waste that is deemed to result in a 1 (or other number to be determined) millirem/year exposure to a member of the critical group into commerce, which would include consumer products. Option 3, "conditional use," is also of concern because radioactive material could be used in the material production of products such as cement. Permitted uses under Option 3 could include bridges, roads and sewer pipes, which raise obvious concern about the potential health effects of long-term public exposure to this kind of infrastructure. The radioactivity will last longer than the project or edifice so it will be present when the material is used next, in a completely unrestricted way, posing a continuing risk to future generations.

Fortunately many metal companies, at their own expense, are using detection equipment to keep out detectable gamma-emitting radioactive materials. It is unclear how many other recycling industries utilize detection equipment at this time. These industries, however, should not be responsible for preventing dispersal of this material. If Options 1, 2, or 3 are chosen, these companies will have to invest in detection equipment to limit the amount of radioactive-contaminated materials that enter their facilities, or hope that the waste generators won't send more than is legal. This is expensive and would not be completely adequate as detection equipment only catches a portion of the radioactivity that might enter.

If this rulemaking proceeds, and options 1, 2 or 3 are accepted, recycled materials could contain radioactive material. Frying pans, belt buckles, zippers, toys, furniture, dental braces, hip-replacement joints, tableware, clothing, jewelry, cars, walls, basements, driveways and roads, tools and equipment, boxes, newspapers, cans and bottles-- there is no limit on where recycled materials could be used. Option 2, unrestricted release using dose-based criteria, would allow nuclear materials to be released as if not radioactive, into everyday commerce. Option 3, "conditional use," purports to release the nuclear waste into commerce for certain limited uses, but will not

[5] Regulatory Guide 1.86, Atomic Energy Commission 1974.

be able to guarantee that those limitations are not violated. Furthermore, the material will be free to be used in any way after the conditional use is completed.

What is necessary is a prohibition on radioactive materials entering into the recycling supply and contaminating it. The NRC is considering releasing, on a generic and routine basis, radioactively contaminated soil, concrete, metals, asphalt, wood, plastics, paper, glass, equipment and more.

By setting dose or risk-based standards for release of radioactively contaminated materials (options 2 and 3 and possibly 4), more nuclear materials could get out with even less tracking and reporting. Currently, materials are being released using measurable, concentration-based levels at the point of release. There are supposed to be set concentrations at the point of release, however that number can be varied if assumptions in the computer code are changed or changes to a different computer code are changed. Using dose-based standards, the concentrations at the point of release could change as the licensee makes determinations about the risks. Tracking and reporting have not been adequately addressed under any of the options including the status quo, Option 1.

We are concerned that radioactive soil could end up in agricultural settings, playgrounds, gardens or potting soil in homes. If the radionuclides emit gamma radiation, a continuous dose could be given to those in the vicinity. Consumers will have less confidence in the safety of products made from recycled materials, thus threatening important energy and environmental conservation strides made over decades.

B. Option 4

Finally, NRC should not allow these radioactive wastes to be dumped in landfills or other facilities that are not designed to contain them, as in Option 4. They should not be dumped as nuclear materials directly from the licensed site or as radioactive consumer goods that have been made from that waste and then end up at waste sites. The proposed and ongoing releases of nuclear waste from licensed control will add more contaminants to the immediate and general environment, making it more difficult to monitor and protect health.

III. Recommendation

We recommend that the NRC reject options 1 through 4, and only consider Option 5 if the radioactive waste will be managed in way that is intended to preclude radioactive releases into the environment or commerce. The rulemaking should give greater attention to ways of effectively isolating all levels radioactive waste at sites specifically licensed for that purpose. The NRC should focus its efforts at better institutional controls that will last as long as the radioactive waste, instead of expending resources on proposals that will needlessly expose consumers to harmful radiation.