

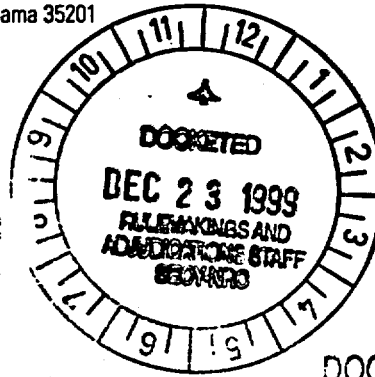
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December 21, 1999

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



SOUTHERN COMPANY
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ATTN: Rulemaking and Adjudication Staff

DOCKET NUMBER
PROPOSED RULE **PR 20**
(64FR35090)

SUBJECT: Release of Solid Materials at Licensed Facilities: Issues Paper, Scoping Process for Environmental Issues, and Notice of Public Meetings -- 64 Federal Register 35090 -- June 30, 1999

This letter is in response to the request for comment on the referenced issues paper and scoping process, and notice of plans for public meetings. It is noted that on October 19, 1999 the comment period was extended to December 22, 1999 (64 Federal Register 56274).

Nuclear power facilities contribute to the country's energy security through generation of competitively priced electricity, using a domestically available energy source. They provide the environmental benefit of avoiding the emission of millions of tons annually of SO_x, NO_x, CO₂¹ and other chemical compounds that could contribute to acid rain, ozone, haze, green house effects and other current environmental concerns. Medical and research facilities provide many other benefits to society through the use of radioactive materials. Operation of nuclear facilities providing these benefits requires that personnel, materials and equipment enter and depart the facility on a frequent and routine basis. Decisions regarding clearance of potentially contaminated solids are thus a current and on-going component of existing operations.

The Nuclear Regulatory Commission currently regulates the release from nuclear facilities of potentially contaminated solid material through a mosaic of regulations,² NRC guidance,³ and case-by-case exceptions.² Although this approach provides a reasonable degree of public protection, it does not provide the same quality of regulation that exists for controlling release of potentially contaminated liquid and gaseous facility effluents. The NRC is considering a rulemaking to set standards on clearance of materials and equipment having residual radioactivity.

¹ Over the next several years, plants operated by Southern Nuclear Operating Company are projected to yield an average combined avoided emissions of approximately 154 thousand tons per year of SO₂, 46 thousand tons per year of NO_x and 22 million tons per year of CO₂.

² See SECY-99-098, Publication of Issues Paper on Release of Solid Materials (Clearance), section A.1 Current NRC Policies.

³ See IE Circular No. 81-07: Control of Radioactively Contaminated Material and IE Information Notice No. 85-92: Surveys of Wastes Before Disposal from Nuclear Reactor Facilities.

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Southern Nuclear Operating Company commends the NRC rulemaking initiative. The current solid material regulatory scheme lacks consistency as a result of its application of quantitative limits to some licensees and a "no licensed material" standard to others. It lacks stability in that guidance documents and enforcement practices have changed over time without the stabilizing influence of the rulemaking process. It forces inefficiencies. Examples include: labor intensive demonstration of compliance with the "no licensed material" standard; consumption of scarce 10 CFR Part 61 approved disposal facilities space to dispose of uncontaminated or insignificantly contaminated materials; and processing of alternatives to Part 61 disposal on a case-by-case exception basis. For 10 CFR Part 50 licensees, it creates a situation where good faith efforts to fully follow NRC guidance on meeting the existing regulations may not be sufficient to ensure full technical compliance with the "no licensed material" standard. When such situations occur, the result is to divert licensee resources and management attention and to inappropriately undercut public and employee confidence in the licensee's programs for control of potentially contaminated solid materials.

Development of a dose-based rule would be in the best interest of the public and the licensees. Given the current state of rules and guidance for release of solid material, a properly crafted rule would both enhance public protection and reduce the regulatory burden on licensees. It should be possible to base a workable rule on dose limits that are a fraction of natural background radiation levels and that are below the innocuous doses voluntarily received in many routine activities of modern life.⁴ Such a rule would be fully protective of public health and safety and if properly structured could be consistent with existing consensus standards,⁵ be compatible with international standards and practices and be cost beneficial. Additionally, it should result in licensees being able to develop programs that will assure improved compliance, with the end result of more effective NRC regulation and improved public confidence in the protection afforded by the regulatory process.

Southern Nuclear Operating Company fully concurs with the comments on this subject provided to the Nuclear Regulatory Commission by the Nuclear Energy Institute. In addition, attached is further discussion of the rulemaking issues. For your convenience, the discussion is organized to follow the flow of issues and discussion topics detailed in the NRC issues paper.

⁴ See Radiation Risk in Perspective, Health Physics Society Position Statement, March 1996. See also, Radiation and Risk. Available at www.physics.isu.edu/radinf/risk.htm.

⁵ ANSI N13.12, Surface and Volume Radioactivity, Standards for Clearance.

Thank you for the opportunity to comment on this very important issue.

Sincerely,

A handwritten signature in cursive script, appearing to read "D. N. Morey".

D. N. Morey
Southern Nuclear Operating Company

Enclosure: Discussion of Issues Associated with the Release of Solid Materials at
Licensed Facilities

cc: J. B. Beasley, Jr.
H. L. Sumner

ENCLOSURE

Discussion of Issues Associated with the Release of Solid Materials at Licensed Facilities

1. The NRC should address the inconsistency in its release standards by considering a rulemaking on release of solid materials.

Operation of nuclear facilities requires that personnel, materials and equipment enter and depart the facility on a frequent and routine basis. Decisions regarding clearance of potentially contaminated solids are thus a current and on-going component of existing operations. Although the existing mosaic of regulations,¹ NRC guidance,² and case-by-case exception¹ provide a reasonable degree of public protection, it does not provide the same quality of regulation that exists for controlling release of potentially contaminated liquid and gaseous facility effluents. The current solid material regulatory scheme lacks consistency as a result of its application of quantitative unrestricted release limits to some licensees and a "no licensed material" unrestricted clearance standard to others. It lacks stability in that guidance documents and enforcement practices have changed over time without the stabilizing influence of the rulemaking process. It forces inefficiencies. Examples include: labor intensive demonstration of compliance with the "no licensed material" standard; consumption of scarce 10 CFR Part 61 approved disposal facilities space to dispose of uncontaminated or insignificantly contaminated materials; and processing of alternatives to Part 61 disposal on a case-by-case exception basis. For Part 50 licensees, it creates a situation where good faith efforts to fully follow NRC guidance on meeting the existing regulations may not be sufficient to ensure full technical compliance with the "no licensed material" standard. When such situations occur, the result is to divert licensee resources and management attention and to inappropriately undercut public and employee confidence in the licensee's programs for control of potentially contaminated solid materials.

Development of a dose-based rule would be in the best interest of the public and the licensees. Given the current state of rules and guidance for release of solid material, a properly crafted rule would both enhance public protection and reduce the regulatory burden on licensees. Additionally, it should result in licensees being able to develop programs that will assure improved compliance, with the end result of more effective NRC regulation and improved public confidence in the protection afforded by the regulatory process.

¹ See SECY-99-098, Publication of Issues Paper on Release of Solid Materials (Clearance), A.1 Current NRC Policies.

² See IE Circular No. 81-07: Control of Radioactively Contaminated Material and IE Information Notice No. 85-92: Surveys of Wastes Before Disposal from Nuclear Reactor Facilities.

2. The NRC rulemaking should focus on a blend of the following alternatives:

- (i) Permit continued release for unrestricted use of solid materials that are currently routinely cleared through a combination of knowledge of low probability of contamination and of hand survey and/or portal monitor survey (e.g., personnel, their personal clothing and "clean" materials, tools and equipment);**
- (ii) Permit release for unrestricted re-use of decontaminated or slightly contaminated industrial tools and equipment if the potential dose to the public from industrial use of the material is less than a specified level determined during the rulemaking process;**
- (iii) Permit release of material for unrestricted disposal using specific approved disposal options (e.g., RCRA landfill, industrial landfill, sanitary landfill, on-site surface sludge application, etc.) if the dose to the public from the selected disposal option is less than a specified level determined during the rulemaking process; and,**
- (iv) Continue to provide a 20.2002 type provision for case-by-case release via pathways not included in the rule.**

Discussion Items:

(A) Human Health and Environmental impacts:

A dose level of 1 to 10 mrem/yr to the critical receptor would be protective of public health and safety and should be similar to current effective limits imposed indirectly by Regulatory Guide 1.86 and by exempt quantity criteria in 10 CFR 30. Such doses would be insignificant in the context of doses from other routine activities and relative to normal background radiation.³ They also would be well below any level known to have adverse health effects.

(B) Cost-benefit considerations:

In performing cost-benefit evaluations, the cost of developing new Part 61-licensed disposal capacity when the available space at Barnwell, Richland, and Envirocare Utah facilities is used up should be considered. Hundreds of millions of dollars have already been spent for development of new regional facilities and no new capacity has been developed to date. Consideration should also be given to the unnecessary cost that will be imposed on licensees to process and store very low-level solid waste in the event of closure of Barnwell and Envirocare facilities.

³ See Radiation Risk in Perspective, Health Physics Society Position Statement, March 1996. See also, Radiation and Risk. Available at www.physics.isu.edu/radinf/risk.htm.

NUREG-1640 spent a significant fraction of its effort on the issue of recycling contaminated metal. The topic of metal recycling also consumed very extensive portions of the NRC regional workshop discussions and was very controversial. The recycled steel industry's concerns appeared to be driven not from any demonstrable health and safety impact but from a fear that public perception would stigmatize recycled steel products. From the perspective of Southern Nuclear Operating Company, it is not essential that recycling of contaminated metals be authorized as part of the rulemaking; however, there should not be an explicit prohibition of such recycling if there is no definitive health and safety basis for such a prohibition. A prohibition would result in a direct conflict with European Community clearance levels and IAEA draft clearance levels.

If recycling is not included in the rulemaking, the following concerns that have been raised in the issues paper and the workshops would only need to be addressed when and if further consideration was given to such recycling:

- (i) The impact of the revised regulations on industries with special concerns over radioactive materials and associated economic risks; and,
- (ii) The potential for buildup of radioactivity in commerce.

(C) Implementation considerations:

It is important to recognize that the modest dose rate levels recommended above would yield reasonable and practical concentration and activity limits only if the exposure pathway scenarios and assumptions used for converting dose rate to activity are realistic and not excessively conservative.

Some options listed by the NRC issues paper are not practical for implementation at nuclear power facilities:

- (i) Prohibiting unrestricted release of all solid material that has been in an area where radioactive material has been used or stored would needlessly result in major increases in radioactive waste generated and significantly impede routine facility operation;
- (ii) Adoption of a zero activity standard would make impractical definitive demonstration of compliance with the standard.

To the maximum extent possible, the NRC rulemaking should be compatible with ANSI N13.12 Surface and Volume Radioactivity Standards for Clearance. If recycling of metals is not approved in the rulemaking, the content of NUREG-1640 should be set aside in favor of ANSI N 13.12 use for all materials disposed.

In light of the interstate commerce issues already experienced with low-level radioactive waste disposal site development and access and with unimpeded non-

radiological access to the various types of state and county landfills, agreement states should be required to maintain strict compatibility with a revised rule on release of solid materials.

- 3. Restrictions on future use of solid materials should not be considered as an alternative at this time.**

Restricting future use of solid materials would be equivalent to continuing licensed radiological control over the materials and the resulting rule would therefore no longer provide for release of the material. Such controls should not be included in the rulemaking at this time. Nevertheless, disposal at a landfill as recommended in 2, above, should be considered. It would result in a *de facto* restriction of material use, but would not be a "restriction on future use" as implied by this issue topic. The material would still be released since the *de facto* restrictions would be achieved under existing federal and state statutes governing landfill operation and closure, not under a new NRC regulatory regime, and the restrictions would not impose new responsibilities on the licensee for ensuring enforcement of post release controls. Although some states prohibit (through statute and/or permit language) disposal of radioactive material at landfills, removal of those prohibitions should be dealt with by licensees at a state level after the NRC rulemaking is complete.

- 4. The proposed rule should cover all solid materials.**

The NRC should proceed with a rulemaking covering all solid materials and providing for the unrestricted release of the materials through selected pathways as described in 2, above. Although the NRC workshops focused primarily on recycling of contaminated metals, the needs for commercial nuclear power facilities are predominately for other materials. Objects requiring clearance from contaminated areas include, but are not limited to tools, instruments, equipment, and clothing. Potentially contaminated solid materials include, but are not limited to metal, wood, plastic, paper, glass, cloth, concrete, roofing material, dirt, sewage sludge, spent resins, and other process wastes. As noted in 2, above, possible clearance options should include non-Part 61 disposal, recycling and reuse as appropriate for the specific materials being considered. The option should exist to conduct further rulemaking at a future date if additional pathways are identified that are appropriate for inclusion in the rule for routine unrestricted release.